



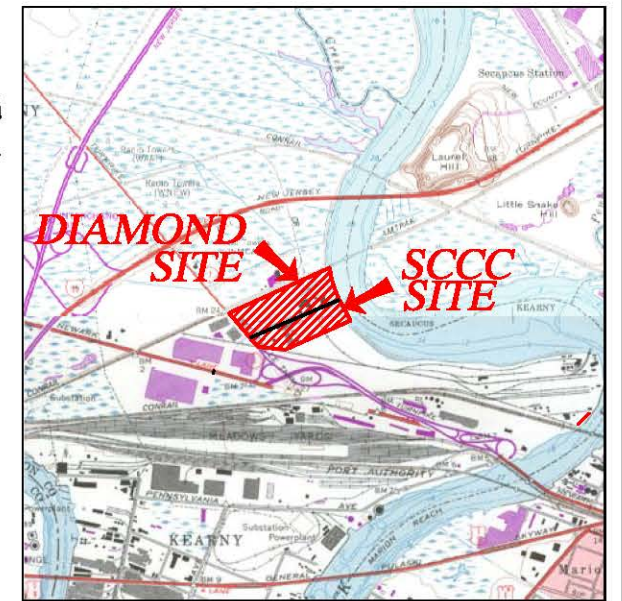
VICINITY MAP

0 12000 24000  
FEET

# CIVIL ENGINEERING DESIGN DRAWINGS SCCC AND DIAMOND SITES KEARNY, NEW JERSEY

Prepared for:

## PENINSULA RESTORATION GROUP



LOCATION MAP

0 2000 4000  
FEET

DRAWING NO.	TITLE	DRAWING NO.	TITLE
T-01	TITLE SHEET	SM-01	SEDIMENT MANAGEMENT PLAN
E-01	EXISTING CONDITIONS SITE PLAN	SM-02	SEDIMENT MANAGEMENT CROSS SECTIONS
IRA-01	PROPOSED OVERALL IRA PLAN	SM-03	TURBIDITY BARRIER DETAIL
ESC-01	SOIL EROSION AND SEDIMENT CONTROL PLAN	DW-01	DEWATERING OPERATIONS PLAN
ESC-02	SOIL EROSION AND SEDIMENT CONTROL DETAILS	SWM-01	STORMWATER MANAGEMENT SYSTEM PLAN
SSP-01	SSP BARRIER WALL PLAN	SWM-02	STORMWATER MANAGEMENT SYSTEM DETAILS
SSP-02	SSP BARRIER WALL PROFILE	SWM-03	STORMWATER MANAGEMENT SYSTEM DETAILS
SSP-03	SSP BARRIER WALL DETAILS	SWM-04	STORMWATER MANAGEMENT SYSTEM DETAILS
SSP-04	SSP BARRIER WALL GENERAL NOTES	SPA-01	SEPTIC TANK AND TRANSFORMER PAD LOCATION PLAN
CBS-01	SLURRY WALL PLAN	SPA-02	SEPTIC TANK REMOVAL AND BACKFILL DETAILS
CBS-02	SLURRY WALL PROFILE 1 OF 2	SPA-03	TRANSFORMER PAD REMEDIATION DETAILS
CBS-03	SLURRY WALL PROFILE 2 OF 2	MTG-01	SHORELINE RESTORATION/WETLAND MITIGATION PLAN
CBS-04	SLURRY WALL DETAILS	MTG-02	SHORELINE RESTORATION/WETLAND MITIGATION DETAILS
SD-01	SOUTH DITCH REMEDIATION PLAN	MTG-03	SHORELINE RESTORATION/WETLAND MITIGATION CROSS SECTIONS (SHEET 1 OF 2)
SD-02	SOUTH DITCH REMEDIATION PROFILES AND CROSS SECTIONS	MTG-04	SHORELINE RESTORATION/WETLAND MITIGATION CROSS SECTIONS (SHEET 2 OF 2)
SC-CA-01	SCCC CONSOLIDATION AREA CONSTRUCTION PLAN	GWT-01	GROUNDWATER TREATMENT FACILITY PLAN
SC-CA-02	SCCC CONSOLIDATION AREA CROSS SECTIONS	GWT-02	CONVEYANCE PIPE AND CONDUIT DETAILS
SC-CA-03	SCCC CONSOLIDATION AREA DETAILS	TT-01	TEMPORARY TREATMENT SYSTEM LINE DRAWING
DS-CA-01	DIAMOND CONSOLIDATION AREA CONSTRUCTION PLAN	TT-02	TEMPORARY CONSTRUCTION TREATMENT SYSTEM PROCESS AND INSTRUMENTATION DIAGRAM
DS-CA-02	DIAMOND CONSOLIDATION AREA CROSS SECTIONS		
DS-CA-03	DIAMOND CONSOLIDATION AREA DETAILS		

△			
△	12/22/09	ISSUED FOR BID	AEB
REV	DATE	DESCRIPTION	APPD

REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLES OF JERSEY CITY, AND WEEHAWKEN, NJ-NY.  
AAA, NEW JERSEY AND PENNSYLVANIA ROAD MAP, 1997.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARED BY:  
ALAN E. BRIGGS, PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 240633678500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES

24GA27961400

DRWN: WMA DATE: 02/27/09  
CHKD: AEB DATE: 02/27/09  
APPD: PWS DATE: 02/27/09  
SCALE: AS SHOWN



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

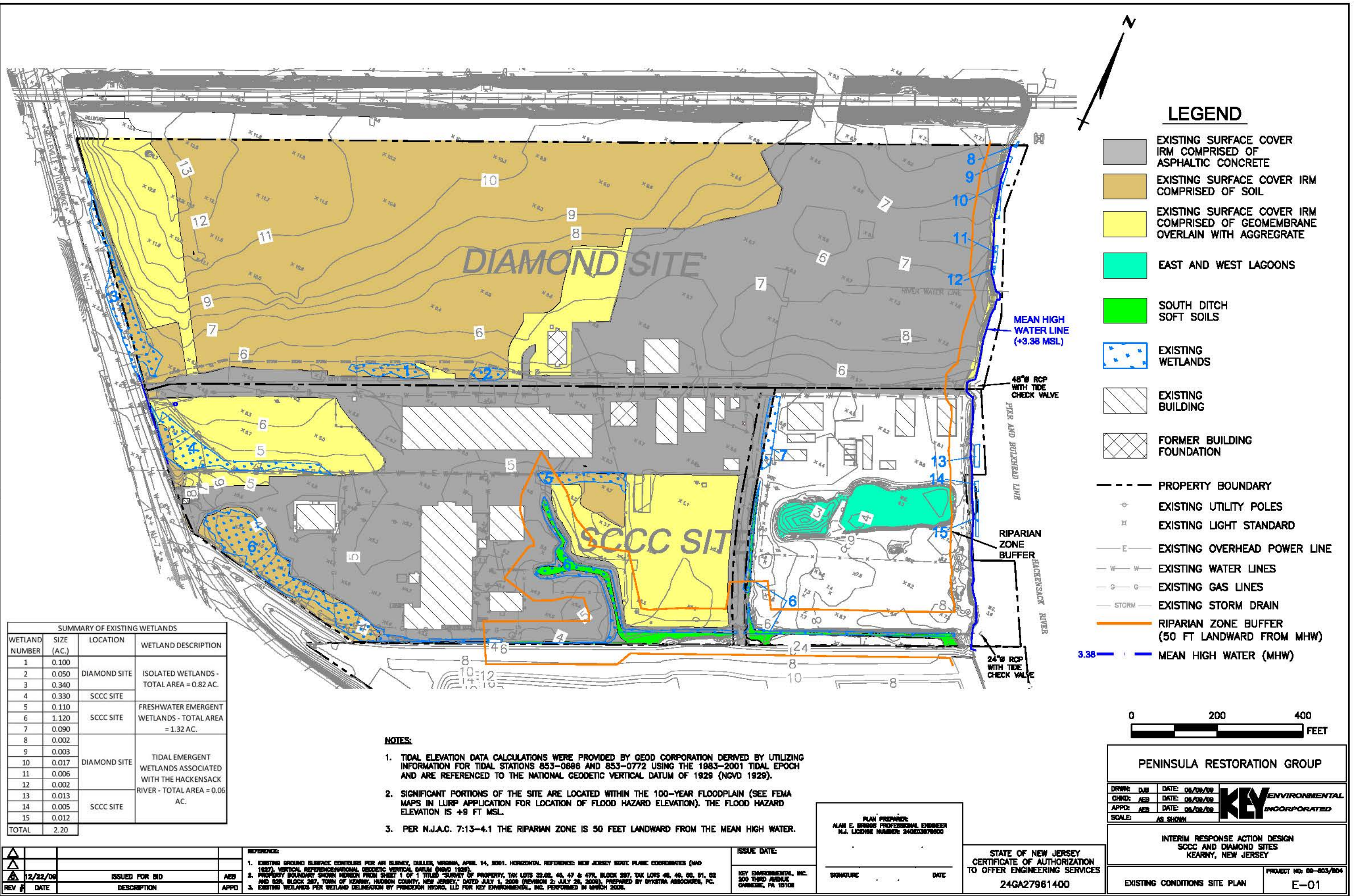
TITLE SHEET

PROJECT NO: 08-803/804

T-01



\\005\k\keyenv\in design\production drawings\civil engineering design drawings\01 existing site conditions.dwg    Last Saved By: Scanner 12/21/2009 5:17 PM    Plotted By: Shelly Conner 2/1/2010 11:10 AM    Scale: 1:1



## LEGEND

- EXISTING SURFACE COVER IRM COMPRISED OF ASPHALTIC CONCRETE
- EXISTING SURFACE COVER IRM COMPRISED OF SOIL
- EXISTING SURFACE COVER IRM COMPRISED OF GEOMEMBRANE OVERLAIN WITH AGGREGATE
- EAST AND WEST LAGOONS
- SOUTH DITCH SOFT SOILS
- EXISTING WETLANDS
- EXISTING BUILDING
- FORMER BUILDING FOUNDATION
- PROPERTY BOUNDARY
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINES
- EXISTING GAS LINES
- EXISTING STORM DRAIN
- RIPARIAN ZONE BUFFER (50 FT LANDWARD FROM MHW)
- MEAN HIGH WATER (MHW)

SUMMARY OF EXISTING WETLANDS				
WETLAND NUMBER	SIZE (AC.)	LOCATION	WETLAND DESCRIPTION	
1	0.100	DIAMOND SITE	ISOLATED WETLANDS - TOTAL AREA = 0.82 AC.	
2	0.050			
3	0.340			
4	0.330	SCCC SITE	FRESHWATER EMERGENT WETLANDS - TOTAL AREA = 1.32 AC.	
5	0.110	SCCC SITE		
6	1.120			
7	0.090	DIAMOND SITE	TIDAL EMERGENT WETLANDS ASSOCIATED WITH THE HACKENSACK RIVER - TOTAL AREA = 0.06 AC.	
8	0.002			
9	0.003			
10	0.017	DIAMOND SITE		
11	0.006			
12	0.002			
13	0.013	SCCC SITE		
14	0.005			
15	0.012			
TOTAL	2.20			

## NOTES:

- TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0898 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
- SIGNIFICANT PORTIONS OF THE SITE ARE LOCATED WITHIN THE 100-YEAR FLOODPLAIN (SEE FEMA MAPS IN LURP APPLICATION FOR LOCATION OF FLOOD HAZARD ELEVATION). THE FLOOD HAZARD ELEVATION IS +8 FT MSL.
- PER N.J.A.C. 7:13-4.1 THE RIPARIAN ZONE IS 50 FEET LANDWARD FROM THE MEAN HIGH WATER.

## REFERENCE:

- EXISTING GROUND SURFACE CONTOURS PER AIR BLUENEY, DILLER, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE NEW JERSEY STATE PLANE COORDINATES (NAD 1983). VERTICAL REFERENCE NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
- PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 48, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2008 (REVISION 2: JULY 28, 2008), PREPARED BY OYSTER ASSOCIATES, P.C.
- EXISTING WETLANDS PER WETLAND DELINEATION BY FREDERICK HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2008.

## ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CAMDEN, PA 17101

PLAN PREPARED BY:  
ALAN E. BRIDGE PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24063876000

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

## PENINSULA RESTORATION GROUP

DRWN: DJB	DATE: 08/08/09	<b>KEY</b> ENVIRONMENTAL INCORPORATED
CHDS: AEB	DATE: 08/08/09	
APPD: AEB	DATE: 08/08/09	
SCALE: AS SHOWN		

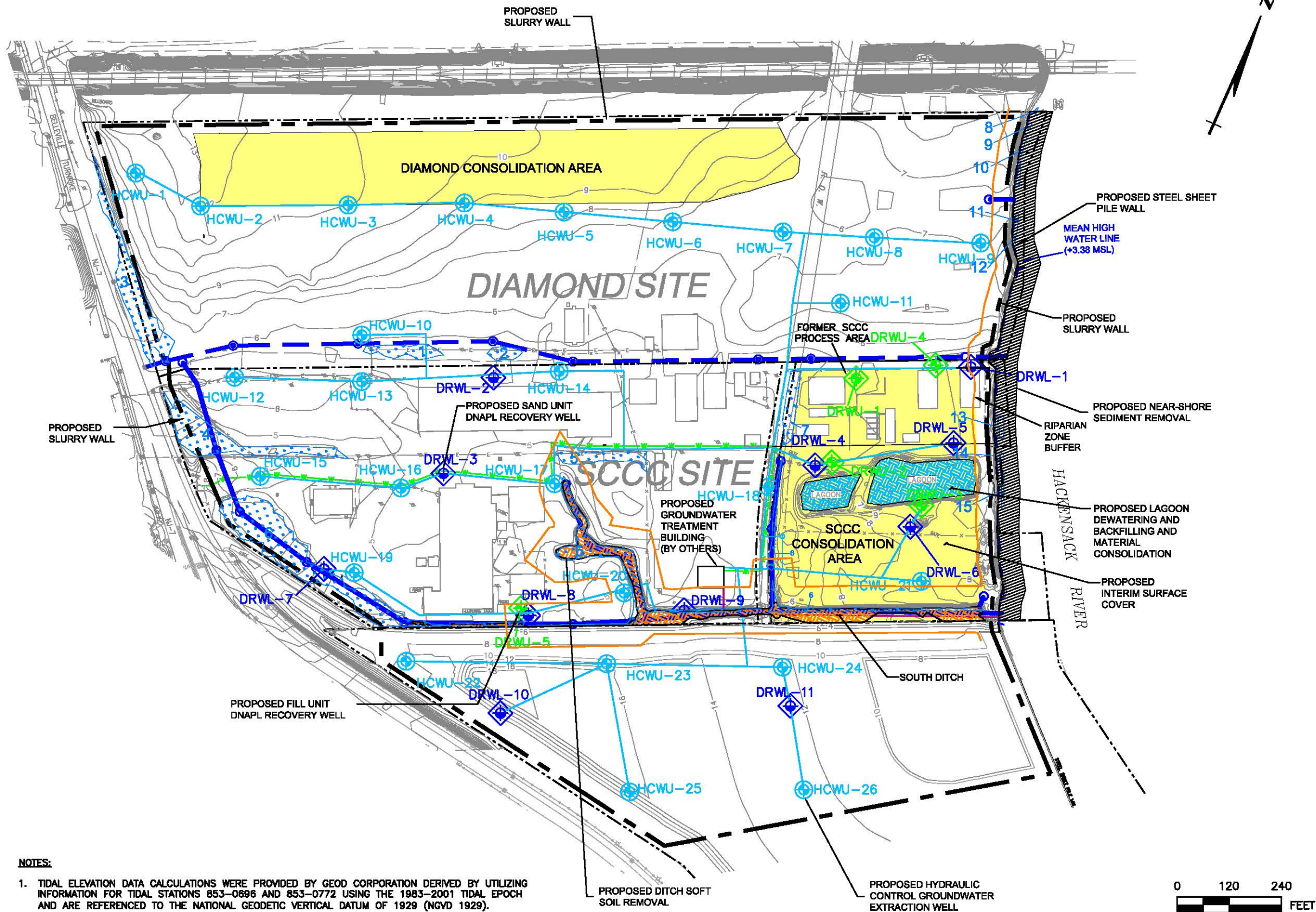
INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

EXISTING CONDITIONS SITE PLAN E-01

PROJECT NO: 08-803/804



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## LEGEND

- EXISTING ACCESS ROAD
- EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
- EXISTING FENCE
- EXISTING STRUCTURES
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE
- PROPERTY BOUNDARY
- EXISTING CONCRETE PAD
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING VEGETATION
- EXISTING STREAM, POND AND RIVER BANK
- EXISTING ELEVATION (FEET-MSL)
- PROPOSED SLURRY WALL LOCATION
- PROPOSED STEEL SHEET PILE WALL LOCATION
- PROPOSED GROUNDWATER CONVEYANCE PIPING TRENCH ALIGNMENT
- RIPARIAN ZONE BUFFER (50 FT LANDWARD FROM MHW)
- MEAN HIGH WATER (MHW)
- PROPOSED FILL UNIT GROUNDWATER EXTRACTION (HYDRAULIC CONTROL) WELL LOCATION (BY OTHERS)
- PROPOSED FILL UNIT DNAPL RECOVERY WELL LOCATION (BY OTHERS)
- PROPOSED SAND UNIT DNAPL RECOVERY WELL LOCATION (BY OTHERS)
- EXISTING WETLANDS
- PROPOSED LAGOON DEWATERING AND BACKFILLING
- PROPOSED NEAR-SHORE SEDIMENT REMOVAL
- PROPOSED DRAINAGE DITCH REMEDIATION (EXCAVATION AND BACKFILL)
- PROPOSED INTERIM SURFACE COVER
- PROPOSED TREATED WATER PERMITTED DISCHARGE PIPING TRENCH ALIGNMENT
- EXISTING STORM DRAIN (48" PIPE)
- PROPOSED CULVERT
- EXISTING DROP INLET
- PROPOSED DROP INLET
- PROPOSED WATER LINE TO TREATMENT BUILDING

### NOTES:

- TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
- SIGNIFICANT PORTIONS OF THE SITE ARE LOCATED WITHIN THE 100-YEAR FLOODPLAIN (SEE FEMA MAPS IN LURP APPLICATION FOR LOCATION OF FLOOD HAZARD ELEVATION). THE FLOOD HAZARD ELEVATION IS + 9FT MSL.

### REFERENCE:

- EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1983). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
- PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 48, 47 & 47R, BLOCK 287, TAX LOTS 48, 48, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 28, 2009), PREPARED BY DYKSTRA ASSOCIATES, P.C.
- EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.

### ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARRIEGUE, PA 15106

PLAN PREPARED BY:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER 24603878500

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

### PENINSULA RESTORATION GROUP

DRWN: WAA DATE: 02/18/09  
CHKD: JAB DATE: 02/18/09  
APPD: JSZ DATE: 02/18/09  
SCALE: AS SHOWN

**KEY** ENVIRONMENTAL  
INCORPORATED

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

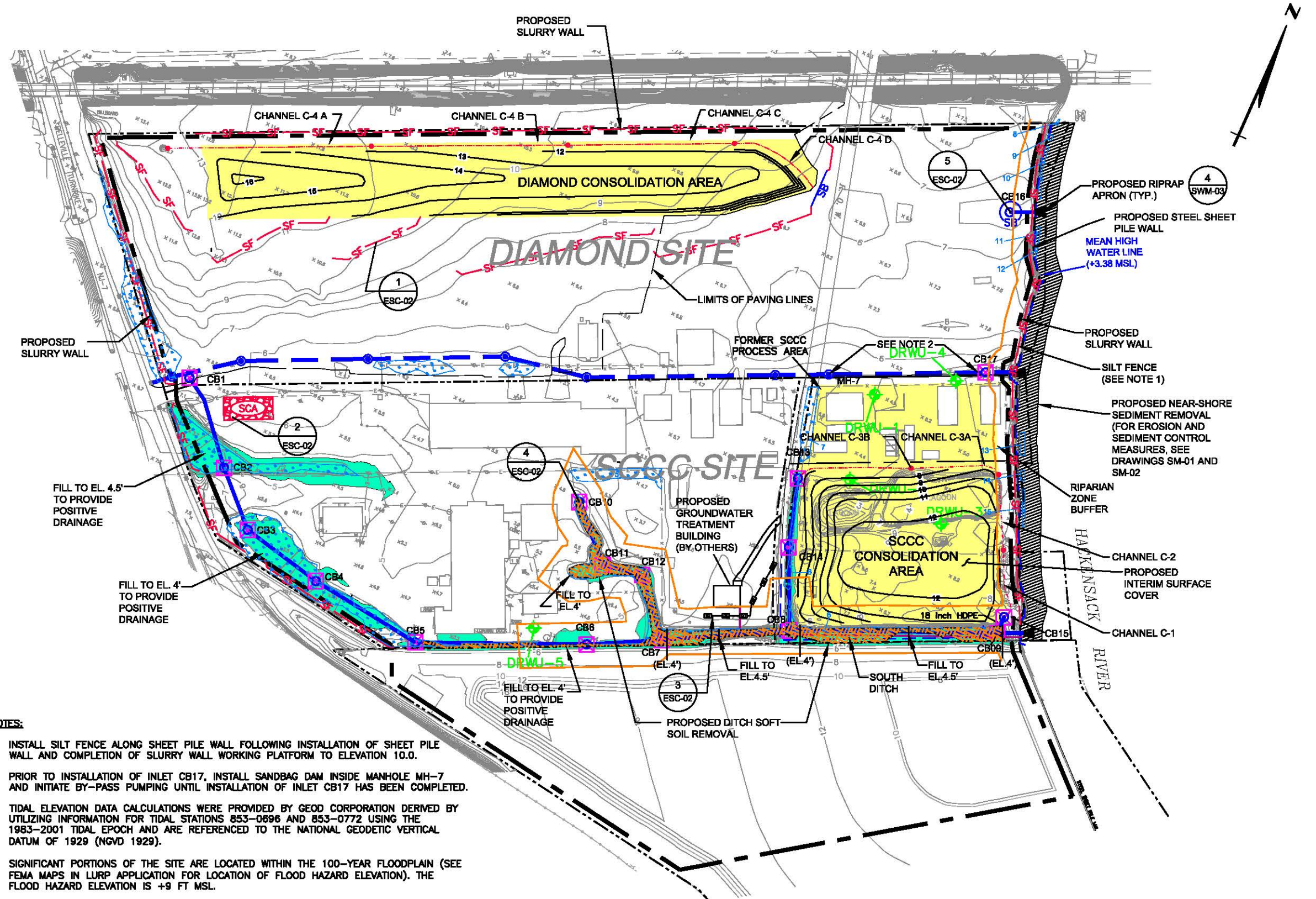
PROPOSED OVERALL IRA PLAN

PROJECT NO: 06-803/04  
IRA-01

REV #	DATE	DESCRIPTION	APPD
1	12/22/08	ISSUED FOR BID	AEB



\\00501\keyenv\proj\00501\production\drawings\esc-01 erosion and sedimentation control plan.dwg Last Saved By: Stanier 12/22/2009 9:24 AM Plotted By: Shelly Comer 2/1/2010 11:14 AM Scale: 1:2



LEGEND

- EXISTING ACCESS ROAD
- EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
- EXISTING FENCE
- EXISTING STRUCTURES
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE
- PROPERTY BOUNDARY
- EXISTING CONCRETE PAD
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING VEGETATION
- EXISTING STREAM, POND AND RIVER BANK
- EXISTING ELEVATION (FEET-MSL)
- PROPOSED SLURRY WALL LOCATION
- PROPOSED STEEL SHEET PILE WALL LOCATION
- RIPARIAN ZONE BUFFER (50 FEET LANDWARD FROM MHW)
- 3.38 MEAN HIGH WATER (MHW)
- EXISTING WETLANDS
- PROPOSED NEAR-SHORE SEDIMENT REMOVAL
- PROPOSED DRAINAGE DITCH REMEDIATION (EXCAVATION AND BACKFILL)
- PROPOSED INTERIM SURFACE COVER
- PROPOSED FILL (FOR DRAINAGE)
- EXISTING STORM DRAIN (48" PIPE)
- PROPOSED CULVERT
- EXISTING DROP INLET
- PROPOSED DROP INLET
- SILT FENCE
- STABILIZED CONSTRUCTION ACCESS
- INLET SEDIMENT PROTECTION (STRAW BALES)
- STRAW BALE BARRIER
- PROPOSED DRAINAGE CHANNEL
- CHANNEL REACH POINT
- STONE BARRIER
- RIPRAP APRON
- PROPOSED FINAL SURFACE CONTOUR
- PROPOSED TREATED WATER PERMITTED DISCHARGE

NOTES:

1. INSTALL SILT FENCE ALONG SHEET PILE WALL FOLLOWING INSTALLATION OF SHEET PILE WALL AND COMPLETION OF SLURRY WALL WORKING PLATFORM TO ELEVATION 10.0.
2. PRIOR TO INSTALLATION OF INLET CB17, INSTALL SANDBAG DAM INSIDE MANHOLE MH-7 AND INITIATE BY-PASS PUMPING UNTIL INSTALLATION OF INLET CB17 HAS BEEN COMPLETED.
3. TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
4. SIGNIFICANT PORTIONS OF THE SITE ARE LOCATED WITHIN THE 100-YEAR FLOODPLAIN (SEE FEMA MAPS IN LURP APPLICATION FOR LOCATION OF FLOOD HAZARD ELEVATION). THE FLOOD HAZARD ELEVATION IS +9 FT MSL.



REV	DATE	DESCRIPTION	APPD
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REFERENCE:

1. EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1983). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
2. PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 48, 47 & 47R, BLOCK 287, TAX LOTS 48, 48, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 28, 2008), PREPARED BY DYKSTRA ASSOCIATES, P.C.
3. EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARRIEGUE, PA 15106

PLAN PREPARED BY:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24603678500

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: DJB	DATE: 03/26/09
CHKD: GNB	DATE: 03/26/09
APPD: JSZ	DATE: 03/26/09
SCALE:	AS SHOWN



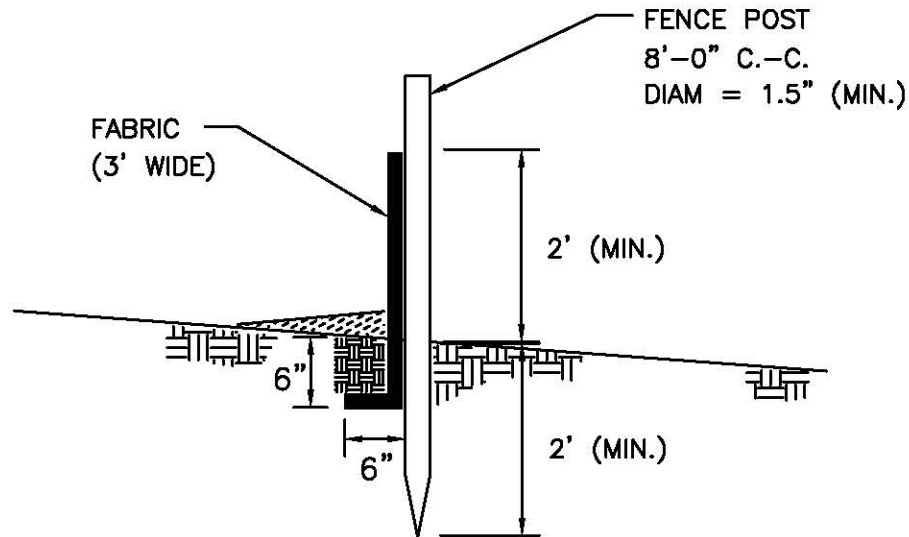
INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SOIL EROSION AND SEDIMENT  
CONTROL PLAN

PROJECT NO: 06-803/04  
ESC-01

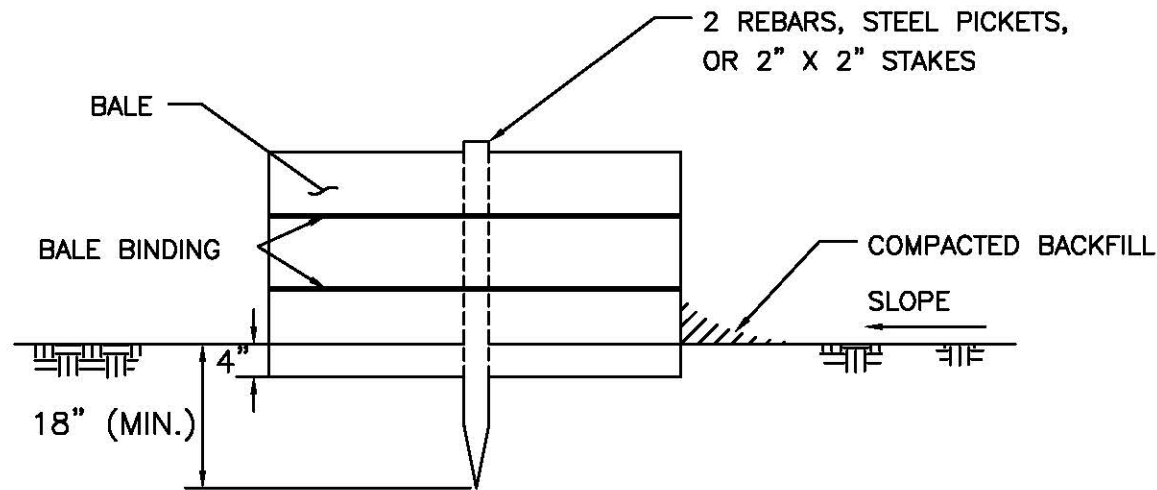


v:\000\kenny\to design\production drawings\civil engineering design drawings\esc-02 soil erosion and sediment control details.dwg Last Saved By: Tedeagevich 12/21/2009 5:19 PM Plotted By: Shelly Comer 2/1/2010 11:10 AM Scale: 1:1

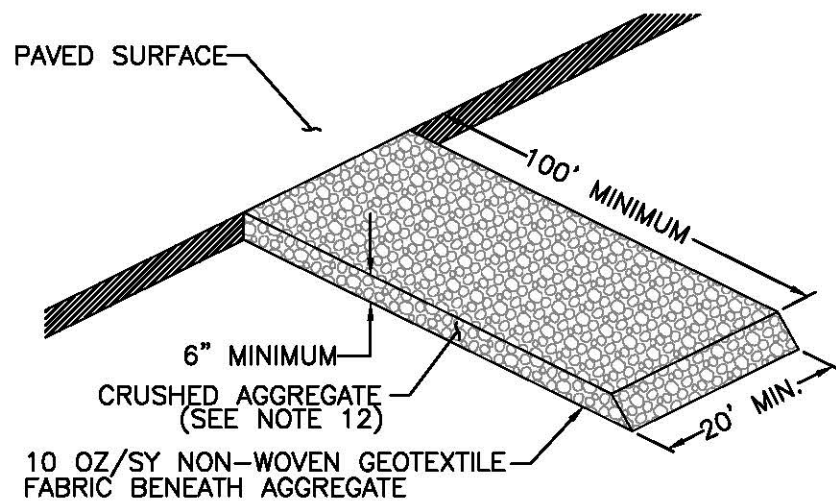


**NOTE:**  
BOTTOM 1 FT. OF FABRIC EMBEDDED IN 6 INCH TRENCH TAMPED IN PLACE.

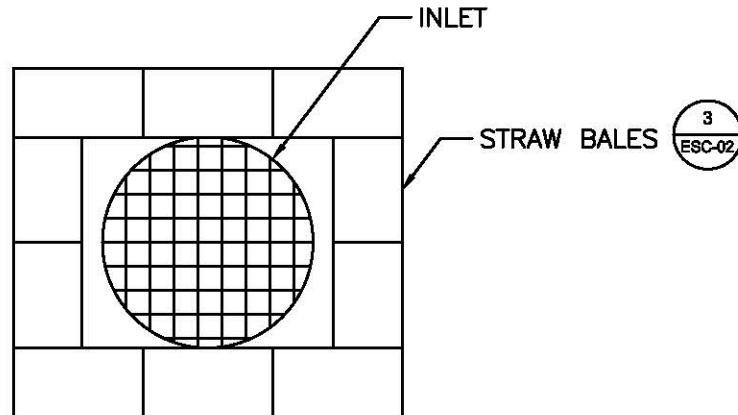
1 **SILT FENCE DETAIL**  
N.T.S.



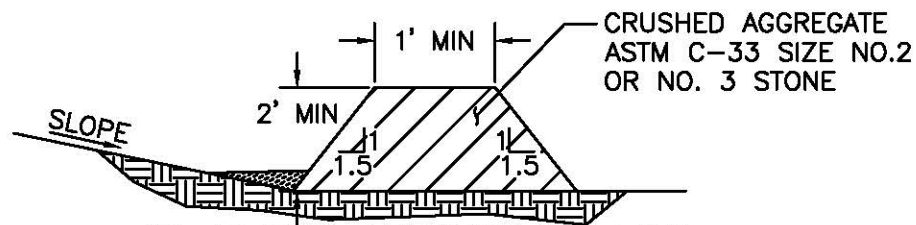
3 **STRAW BALE BARRIER DETAIL**  
N.T.S.



2 **STABILIZED CONSTRUCTION ACCESS DETAIL**  
N.T.S.



4 **INLET SEDIMENT PROTECTION**  
N.T.S.



5 **STONE BARRIER DETAIL**  
N.T.S.

## SOIL EROSION AND SEDIMENT CONTROL NOTES

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN WILL BE CONSTRUCTED IN ACCORDANCE WITH THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY" LAST REVISED JULY 1999 (STANDARDS). THESE MEASURES WILL BE INSTALLED PRIOR TO ANY MAJOR SITE DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- SEEDING DATES: BASED UPON THE SEED MIXTURES SPECIFIED BELOW, THE FOLLOWING SEEDING DATES ARE ACCEPTABLE TO ESTABLISH PERMANENT VEGETATIVE COVER: MARCH 1 TO OCTOBER 1. AS IDENTIFIED IN THE STANDARDS, SEED MIXTURE NUMBER 14 SHALL BE UTILIZED FOR THE ESTABLISHMENT OF VEGETATION OF THE DRAINAGE CHANNELS. ALL OTHER AREAS SHALL BE SEEDED WITH SEED MIXTURE NUMBER 17, INCLUDING PLATEAU AND SIDE SLOPE AREAS. ALTERNATE SEED MIXTURES ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.
- SILT FENCE SHALL BE INSTALLED AROUND THE PERIMETER OF THE SITE PRIOR TO ANY INTRUSIVE ACTIVITIES. ALL SILT FENCE IS TO BE PROPERLY TRENCHED AND MAINTAIN UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED. SEDIMENT RETAINED BY SILT FENCE AT THE TIME OF REMOVAL SHALL BE SPREAD ON-SITE AT A LOCATION DIRECTED BY THE ENGINEER AND RESEEDED.
- INSTALL INLET SEDIMENT/PROTECTION MEASURES FOR ALL PROPOSED INLETS AS SOON AS THEY ARE BROUGHT INTO SERVICE. STORM DRAINAGE OUTLET POINTS SHALL BE PROTECTED AS REQUIRED BEFORE THEY BECOME FUNCTIONAL.
- FOR ESTABLISHMENT OF A PERMANENT VEGETATIVE COVER, MULCH MATERIALS SHALL BE UN-ROTTED SALT HAY OR SMALL GRAIN STRAW APPLIED AT THE RATE OF 70-90 POUNDS PER 1000 SQUARE FEET (1.5-2.0 TONS/ACRE). ADDITIONAL REQUIRED MULCH PRACTICES ARE PRESCRIBED IN THE STANDARDS. OTHER PERMANENT REVEGETATION MEASURES, WHICH INCLUDE SITE PREPARATION, SEEDBED PREPARATION AND PERMANENT SEEDING, SHALL BE CONDUCTED IN ACCORDANCE WITH THE STANDARDS. PRIOR TO PERMANENT SEEDING, SCARIFICATION OF TOPSOIL SHALL BE LIMITED TO A MAXIMUM DEPTH OF THREE (3) INCHES TO PREVENT DISTURBANCE OF THE UNDERLYING CONTAINMENT AREA MATERIALS.
- ALL EROSION CONTROL DEVICES SHALL BE PERIODICALLY INSPECTED, MAINTAINED AND CORRECTED BY THE CONTRACTOR. ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.
- THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT WILL BE NOTIFIED IN WRITING AT LEAST 72 HOURS PRIOR TO ANY SOIL DISTURBING ACTIVITIES. FAX - (973) 364-0784 EMAIL - INFORMATION@HEPSCD.ORG.
- THE APPLICANT MUST OBTAIN A DISTRICT ISSUED REPORT-OF-COMPLIANCE PRIOR TO APPLYING FOR THE CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY FROM THE RESPECTIVE MUNICIPALITY, NJ - DCA OR ANY OTHER CONTROLLING AGENCY.** CONTACT THE DISTRICT AND GIVE ADVANCED NOTICE UPON COMPLETION OF THE RESTABILIZATION MEASURES. A PERFORMANCE DEPOSIT MAY BE POSTED WITH THE DISTRICT WHEN WINTER WEATHER OR SNOW COVER PROHIBITS THE PROPER APPLICATION OF SEED, MULCH, FERTILIZER OR HYDRO-SEED.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. SOIL OR MUD THAT IS SPILLED, DROPPED, WASHED OR TRUCKED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY AND PLACED ON SITE AT A LOCATION DIRECTED BY THE ENGINEER.
- ALL DISTURBED SURFACES NOT STABILIZED WITH AGGREGATE ARE TO BE PROVIDED WITH 6 INCHES OF TOPSOIL PRIOR TO PERMANENT RE-SEEDING.
- ALL PLAN REVISIONS MUST BE SUBMITTED TO THE DISTRICT FOR PROPER REVIEW AND APPROVAL.
- STABILIZED CONSTRUCTION ACCESS IS TO BE INSTALLED AT ALL SITE ENTRANCES/EXITS USING ASTM C-33 SIZE NO. 2 OR NO. 3 CRUSHED AGGREGATE TO A MINIMUM LENGTH OF 100 FEET. THE CONSTRUCTION ACCESS SHALL BE MAINTAINED THROUGHOUT THE PROJECT. ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND.
- MAXIMUM SOIL SLOPES SHALL NOT EXCEED 2:1 UNLESS ADDITIONAL MEASURES ARE TAKEN AND APPROVED BY THE SOIL CONSERVATION DISTRICT. THESE "SPECIAL" MEASURES SHALL BE DESIGNED BY THE APPLICANT'S ENGINEER.
- THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED, IN WRITING, FOR THE SALE OF ANY PORTION OF THE PROJECT OR FOR THE SALE OF INDIVIDUAL LOTS. NEW OWNERS' INFORMATION SHALL BE PROVIDED. ADDITIONAL MEASURES DEEMED NECESSARY BY DISTRICT OFFICIALS SHALL BE IMPLEMENTED AS CONDITIONS WARRANT.**
- TEMPORARY DIVERSIONS, AS SHOWN ON THIS DRAWING, SHALL BE USED AS REQUIRED THROUGHOUT CONSTRUCTION TO PREVENT DIRECT DISCHARGE OF CONCENTRATED STORMWATER FLOW FROM THE SITE.
- DUST CONTROL MEASURES SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS.

REV #	DATE	DESCRIPTION	APPROVED
1	12/22/09	ISSUED FOR BID	AEB

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARED:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24603678500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
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PENINSULA RESTORATION GROUP

DRWN: SCC DATE: 03/24/09  
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**KEY** ENVIRONMENTAL  
INCORPORATED

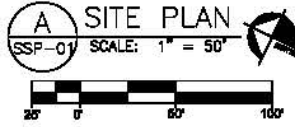
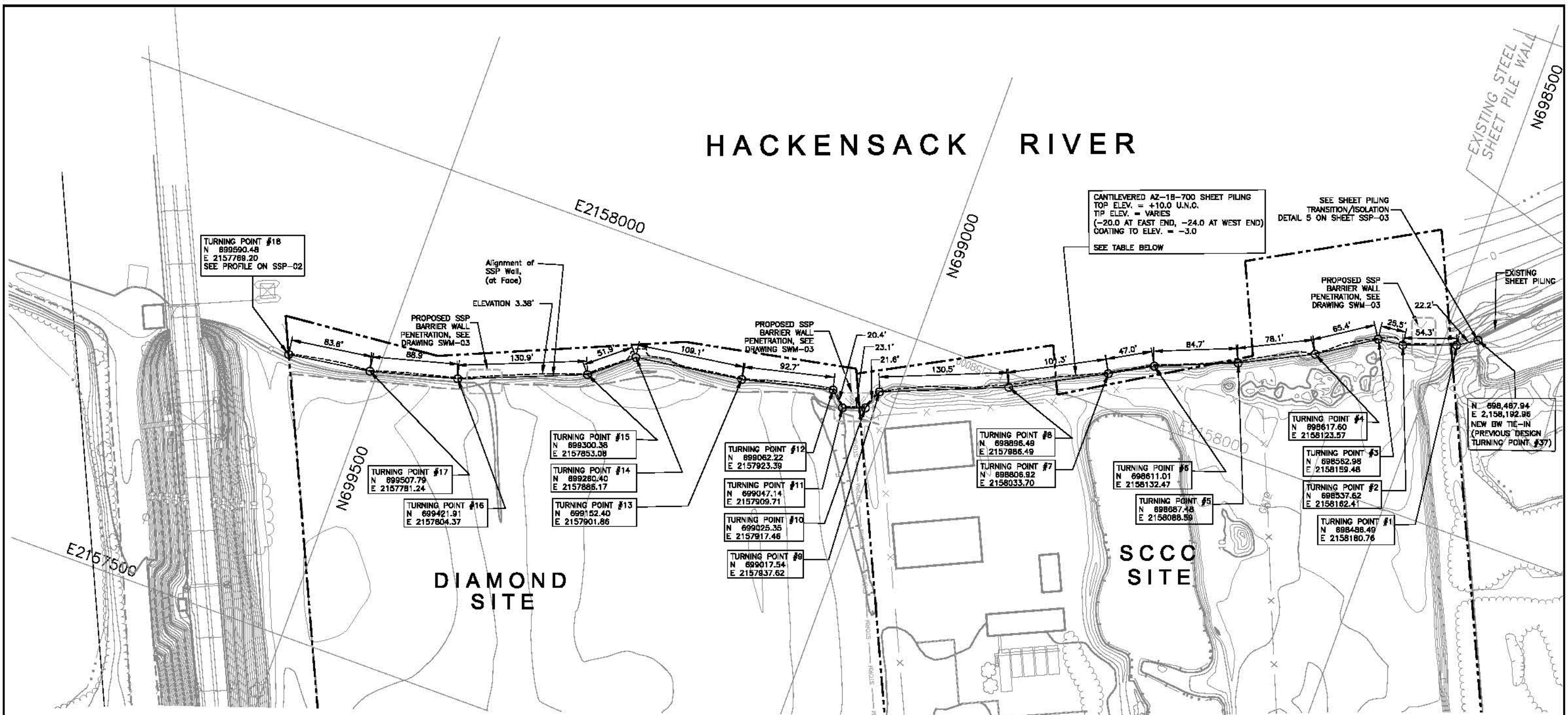
INTERIM RESPONSE ACTION DESIGN  
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KEARNY, NEW JERSEY

SOIL EROSION AND SEDIMENT  
CONTROL DETAILS

PROJECT NO: 09-803/804  
ESC-02



HACKENSACK RIVER



- LEGEND:**
- PROPERTY BOUNDARY
  - - - EXISTING FENCE
  - EXISTING STRUCTURES
  - EXISTING GROUND SURFACE ELEVATION CONTOURS
  - U.N.C. UNLESS NOTED OTHERWISE

TURNING POINT	N	E	No. of SHT. PILES (PAIRS)	STATION	TIP ELEVATION
	(@ SSP FACE)	(@ SSP FACE)			
0	698,467.94	2,158,192.96	4.8	0+0	-20.0
1	698,486.49	2,158,180.76	16.7	0+22.2	-20.0
2	698,537.62	2,158,162.41	22.2	0+76.5	-20.0
3	698,562.98	2,158,159.48	36.4	1+02.0	-20.0
4	698,617.60	2,158,123.57	53.5	1+67.4	-20.0
5	698,687.48	2,158,088.59	71.9	2+45.5	-20.0
6	698,611.01	2,158,132.47	82.1	3+30.2	-20.0
7	698,806.92	2,158,033.70	104.2	3+77.2	-20.0
8	698,896.49	2,157,986.49	132.6	4+78.5	-20.0
EAST OF TP. #9	699,017.54	2,157,937.62	-	6+09.0	-20.0
WEST OF TP. #9	699,017.54	2,157,937.62	-	6+09.0	-24.0
10	699,025.35	2,157,917.46	137.3	6+30.6	-24.0
11	699,047.14	2,157,909.71	142.3	6+53.7	-24.0
12	699,062.22	2,157,923.39	146.8	6+74.1	-24.0
13	699,152.40	2,157,901.86	167.0	7+66.8	-24.0
14	699,260.40	2,157,886.17	190.7	8+75.9	-24.0
15	699,300.38	2,157,853.08	202.0	9+27.8	-24.0
16	699,421.91	2,157,804.37	230.5	10+58.7	-24.0
17	699,507.79	2,157,781.24	249.9	11+47.6	-24.0
18	699,590.48	2,157,769.20	268.1	12+31.2	-24.0

NOTE: COORDINATES SHOWN AT TURNING POINTS AND STATION VALUES ARE CALCULATED. ACTUAL VALUES MAY VARY IN THE FIELD, SUBJECT TO ENGINEER'S APPROVAL.

REV	DATE	DESCRIPTION	APPD
1	12/22/09	ISSUED FOR BID	AEB
2			

REFERENCE:	ISSUE DATE:
	KEY ENVIRONMENTAL, INC. 200 THIRD AVENUE CARNEGIE, PA 15106

PLAN PREPARED BY: ALAN E. BRIGGS  
PROFESSIONAL ENGINEER N.J. LICENSE  
NUMBER: 24603078500

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

DRWN: SCC DATE: 06/16/09  
CHKD: AEB DATE: 06/16/09  
APPD: AEB DATE: 06/16/09  
SCALE: AS SHOWN

**KEY ENVIRONMENTAL**  
INCORPORATED

PENINSULA RESTORATION GROUP

INTERIM RESPONSE ACTION DESIGN  
SCCO AND DIAMOND SITES  
KEARNY, NEW JERSEY

SSP BARRIER WALL PLAN

PROJECT NO: 08-803/804

SSP-01

SSP WALL DESIGN SUBCONSULTANT -  
SSE PROJ. NO. 06-1079

**GGE**


CIVIL - STRUCTURAL - GEOTECHNICAL  
MATERIALS TESTING - CONSULTING

GLYNN GEOTECHNICAL ENGINEERING  
415 S. TRANSIT STREET  
LOCKPORT, NEW YORK 14094  
www.glynnge.com  
VOICE (716) 825-8833 / FAX (716) 825-1883



\\000civill\earnry\ira design\production drawings\civil engineering design drawings\ssp-02 ssp barrier wall profile.dwg    Lost Saved By: Scomer    1/28/2010 5:00 PM    Plotted By: Shelly Comer    2/1/2010 12:52 PM    Scale: 1:2



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## PENINSULA RESTORATION GROUP

INTERIM RESPONSE ACTION DESIGN  
SOCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

PROJECT NO: 00-803/804  
SSP-02

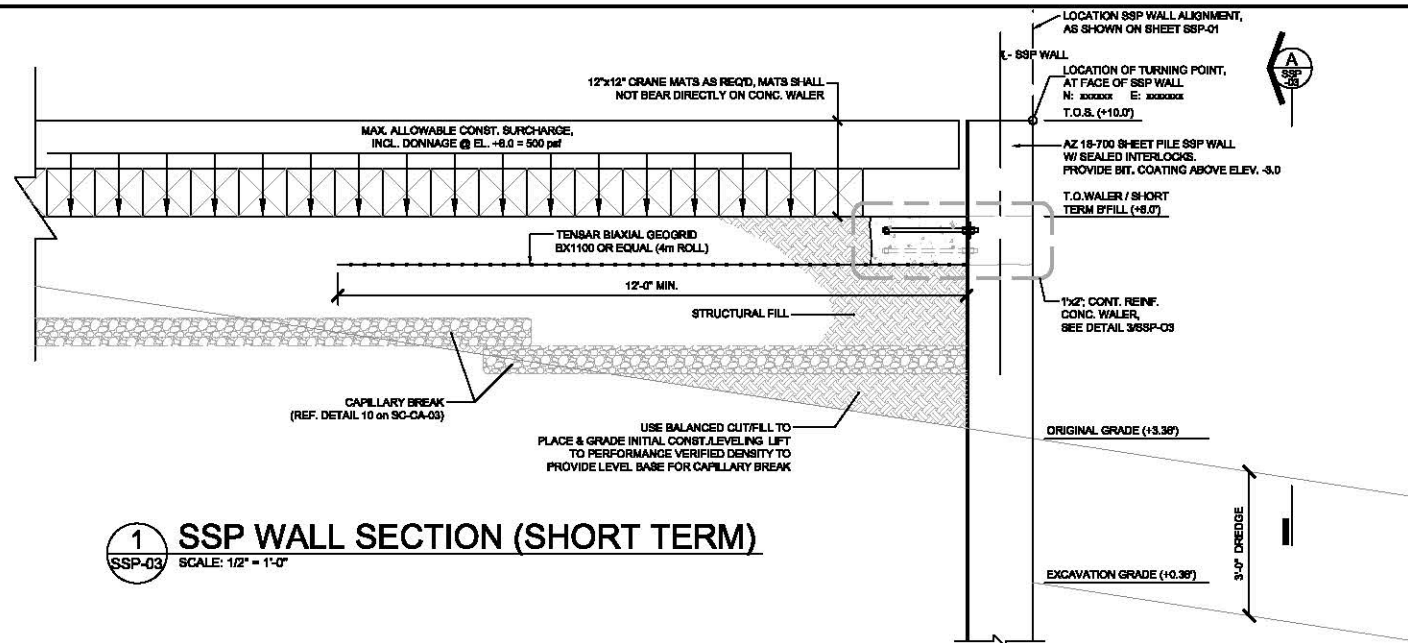
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ISSUE DATE:	
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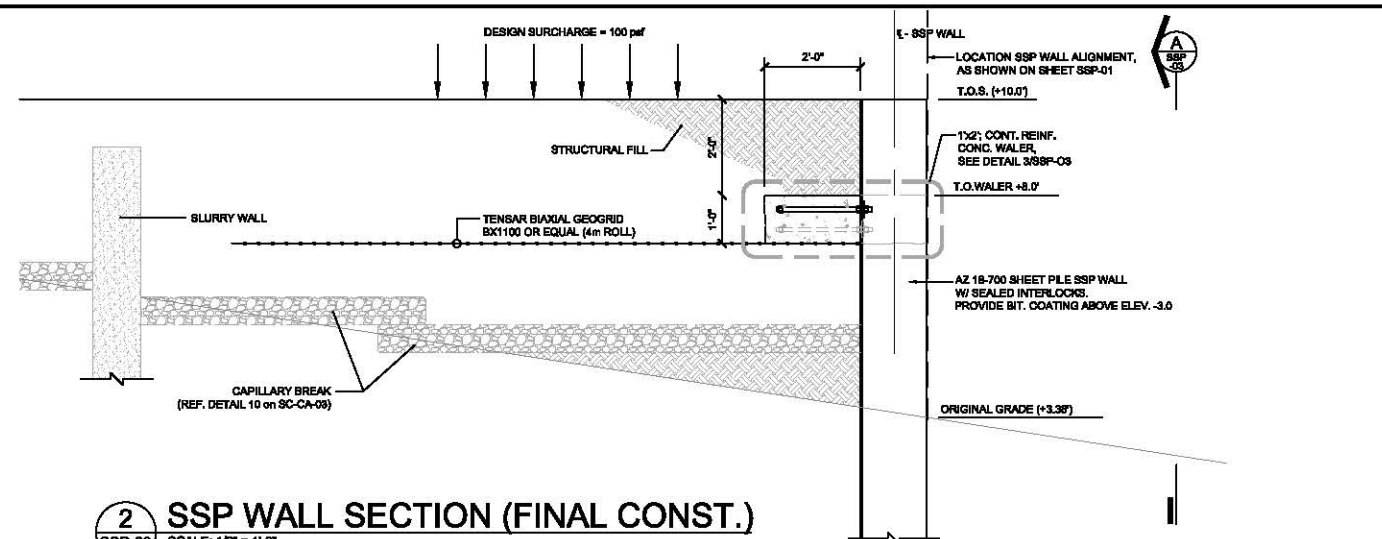
**KEY ENVIRONMENTAL, INC.**  
200 THIRD AVENUE  
CARNEGIE, PA 15106

**CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400**

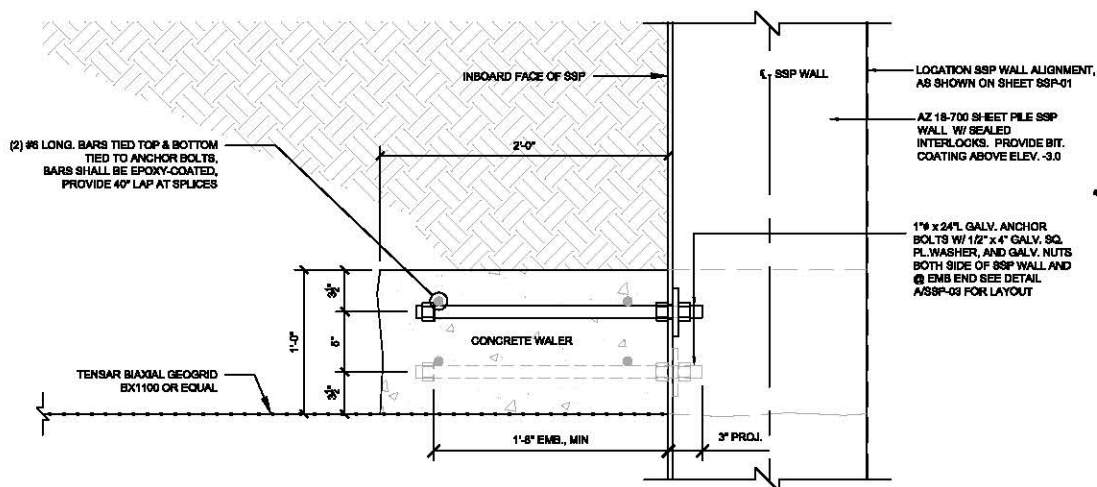




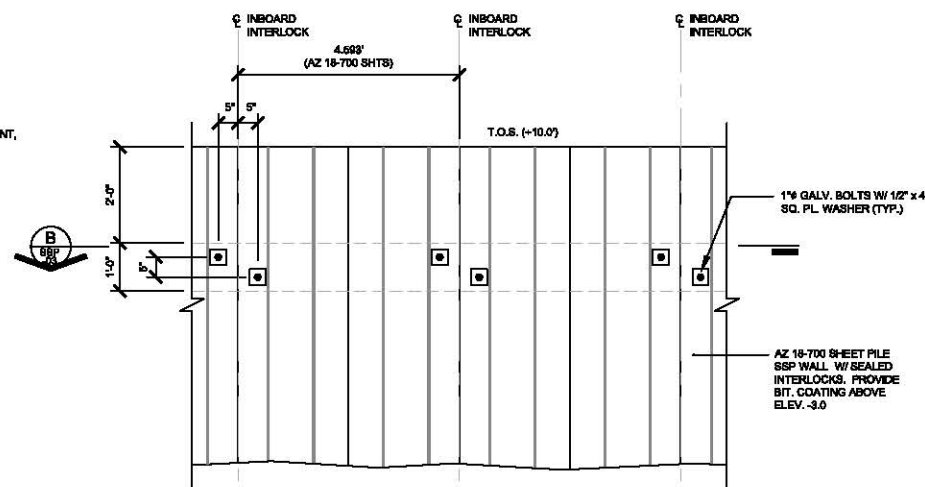
**1 SSP WALL SECTION (SHORT TERM)**  
SSP-03 SCALE: 1/2" = 1'-0"



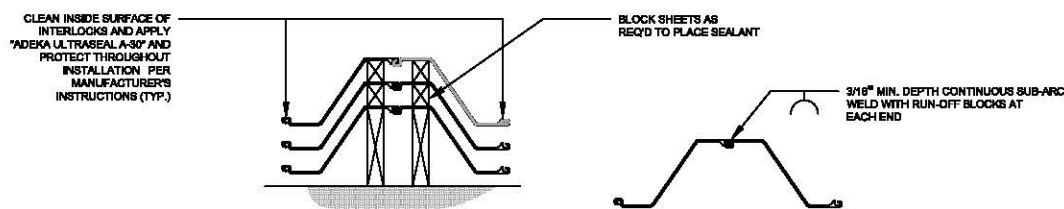
**2 SSP WALL SECTION (FINAL CONST.)**  
SSP-03 SCALE: 1/2" = 1'-0"



**3 SHEET PILE / WALER DETAIL SECTION**  
SSP-03 SCALE: 1/2" = 1'-0"



**4 SSP WALL FRONT ELEVATION**  
SSP-03 SCALE: 1/2" = 1'-0"

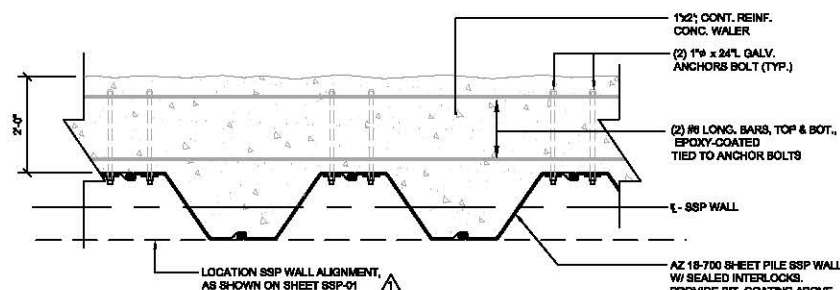


**4 INTERLOCK SEALING DETAILS**  
SSP-03 SCALE: N.T.S.

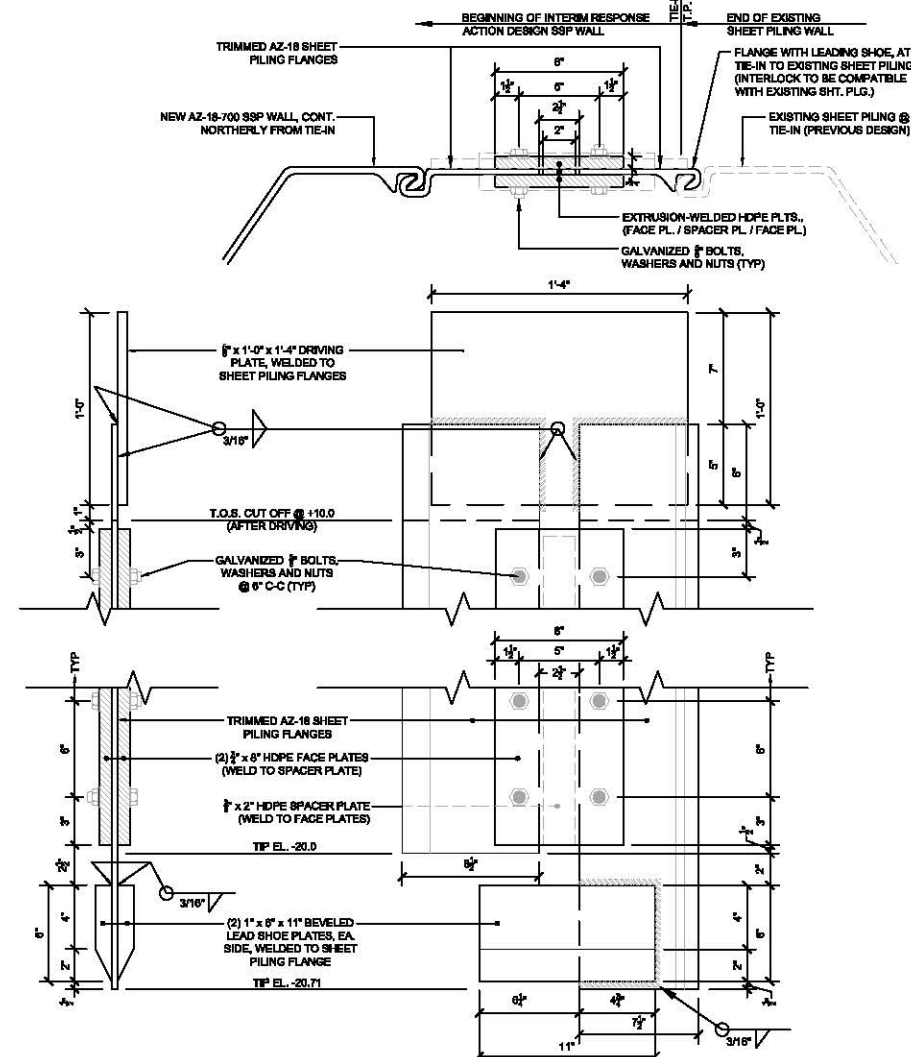
NOTE:  
INTERLOCK SEALING DETAILS BASED ON DESIGN DETAILS SHOWN ON  
MUESER RUTLEDGE CONSULTING ENGINEERS DWG SP-8 DATED 5-3-08  
FOR PREVIOUS PROJECT PHASE

REV #	DATE	DESCRIPTION	APPD
1	12/22/09	ISSUED FOR BID	AEB
2			
3			

REFERENCE:



**5 SSP WALL / WALER PLAN DETAIL**  
SSP-03 SCALE: 1/2" = 1'-0"



**5 SHEET PILING TRANSITION / ISOLATION DETAIL**  
SSP-03 SCALE: 2" = 1'-0"

SSP WALL DESIGN SUBCONSULTANT -  
GGE PROJ. NO. 08-1078

**GGE**  
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GLYNN GEOTECHNICAL ENGINEERING  
415 S. TRANSIT STREET  
LOCKPORT, NEW YORK 14094  
WWW.GGEGROUP.COM  
VOICE (716) 625-6933 / FAX (716) 625-6983

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15108

PLAN PREPARED BY: ALAN E. BRIGGS  
PROFESSIONAL ENGINEER N.J. LICENSE  
NUMBER: 24GE03878500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES

24GA27961400

PENINSULA RESTORATION GROUP

DRWN: SCC DATE: 06/16/09  
CHKD: AEB DATE: 06/16/09  
APPD: AEB DATE: 06/16/09  
SCALE: AS SHOWN

**KEY ENVIRONMENTAL**  
INCORPORATED

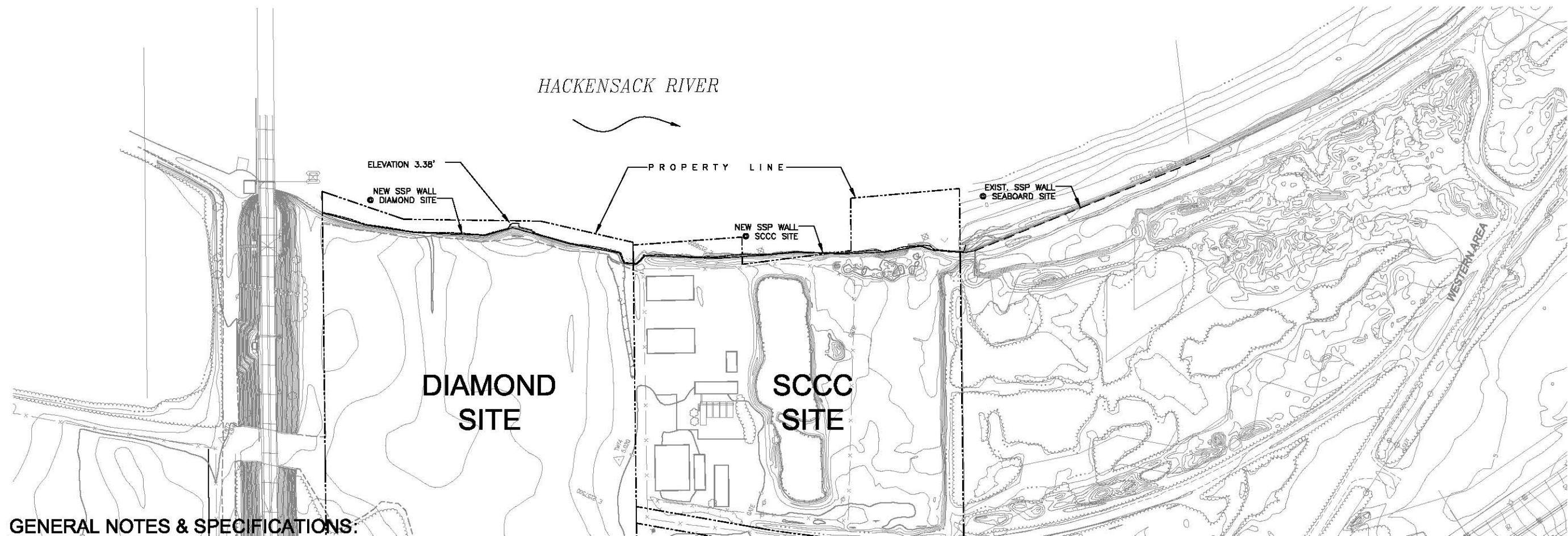
INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SSP BARRIER WALL DETAILS

PROJECT NO: 08-803/804

SSP-03





## GENERAL NOTES & SPECIFICATIONS:

### DESIGN NOTES:

- SSP WALL DESIGN USES RANKINE EARTH PRESSURES AND CONSIDERS BOTH SHORT TERM CONSTRUCTION AND FINAL SUPPORT CONDITIONS.
- SOIL PARAMETERS USED IN THE DESIGN ARE DERIVED FROM SUBSURFACE SOILS DATA PRESENTED WITHIN PROJECT INFORMATION COMPLIED AND PROVIDED BY KEY ENVIRONMENTAL.
- DESIGN USES CANTILEVERED SHEET PILING TO SUPPORT UNBALANCED EARTH AND HYDROSTATIC LOADING. THE DESIGN ALSO INCLUDES SUPPLEMENTAL STRUCTURAL COMPONENTS (BACKUP WALER AND GEOGRID REINFORCING) TO FURTHER CONTROL DEFLECTION AND ACCOUNT FOR MINOR DISCREPANCIES BETWEEN ESTIMATED DESIGN PARAMETERS AND VARYING FIELD CONDITIONS.
- SHEET PILE WALL ALIGNMENT SHALL BE AS NOTED ON DRAWING SSP-01 WHICH PROVIDES CALCULATED ALIGNMENT COORDINATES. ANY ADJUSTMENT TO THE PRESCRIBED ALIGNMENT SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.

### MATERIALS:

- PROVIDED SHEETPIILING SHALL BE NEW. AS A MINIMUM, SHEET PILING MATERIAL SHALL COMPLY WITH ASTM A328 (Fy = 39 KSI, MIN.), AND SHALL BE PRODUCED BY "HOT ROLLING".
- CANTILEVERED SHEETPIILING SHALL PROVIDE A MIN. SECTION MODULUS OF 33.5in<sup>4</sup>/ft. USE AZ-18-700 SECTIONS MANUFACTURED BY ARCELOR MITTAL. ALTERNATE SECTIONS PROVIDING A "GREATER" SECTION MODULUS MAY BE USED PENDING THE ENGINEER'S ACCEPTANCE.
- SHEET PILING INTERLOCKS SHALL BE SEALED AS PER DRAWING DETAIL 4/SSP-03 TO CONTROL GROUNDWATER MIGRATION ACROSS THE SSP WALL.
- SHEET PILING SHALL BE COATED WITH "BITUMASTIC 300 M", OR APPROVED EQUAL, TO AN ELEVATION OF -3.00' OR BELOW (I.E., THE UPPER 13' MIN.).
- IF REQUIRED, SUPPLEMENTAL STRUCTURAL STEEL SHALL COMPLY WITH:
  - WIDE-FLANGE "W" SHAPES - ASTM A992, Fy = 50 ksi,
  - "HP" SHAPES - ASTM A572, Fy = 50 ksi,
  - PIPE SECTIONS - ASTM A53, Gr. B, Fy = 35 ksi
  - MISC. PLATES AND CHANNELS - ASTM A36, Fy = 36 ksi
- ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND COMPLY WITH THE MATERIAL REQUIREMENTS OF ASTM F1554, GR. 36.

### CONCRETE:

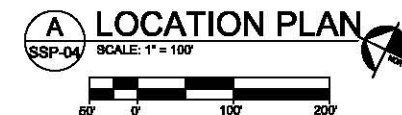
- REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO THE MATERIAL REQUIREMENTS OF ASTM A615. ALL REINFORCING SHALL BE EPOXY-COATED IN ACCORDANCE WITH ASTM D 3963
- CONCRETE SHALL PROVIDE A 28-DAY COMPRESSIVE STRENGTH OF 4,000 psi. CONCRETE SHALL BE DESIGNED WITH A MAXIMUM WATER/CEMENT RATIO OF 0.45, ENTRAINED AIR CONTENT OF 4 % TO 7 %, AND MINIMUM 3/4 INCH AGGREGATE.
- ALL CONCRETE SHALL BE PLACED WITH A SLUMP RANGE OF 2 INCHES TO 4 INCHES. ANY OUT OF SPECIFICATION CONCRETE SHALL BE REJECTED AT THE COST OF THE CONTRACTOR. WATER MAY BE ADDED TO THE FRESH CONCRETE ONLY (1) ONE TIME WHILE ON SITE AND ONLY AT THE BEGINNING OF DISCHARGE OF THE CONCRETE.

### WELDING:

- ALL WELDS SHALL BE MADE BY APPROVED CERTIFIED WELDERS AND SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE FOR BUILDINGS, AWS D1.1.
- ALL WELDED CONNECTIONS SHALL BE MADE WITH E70XX ELECTRODES.

### GENERAL CONSTRUCTION PROCEDURES:

- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF OSHA CFR 29, PART 1926.
- COMPLETE 2' DEEP EXCAVATION ALONG THE ALIGNMENT OF THE SHEET PILING SSP WALL AS REQUIRED TO CLEAR THE DRIVELINE OF OBSTRUCTIONS.
- DRIVE SHEET PILING ALONG THE DESIGN ALIGNMENT TO THE TOE DEPTHS SPECIFIED ON THESE DRAWINGS. THE SPECIFIED TOE DEPTH IS A MINIMUM INSTALLATION DEPTH.
- PLACE, GRADE AND COMPACT FILL BEHIND THE SSP WALL IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND AS FOLLOWS:
  - USE STRUCTURAL FILL FOR THE INITIAL CONSTRUCTION / LEVELING LIFT TO PROVIDE A UNIFORM, LEVEL BASE FOR THE CAPILLARY BREAK SYSTEM. THE CONSTRUCTION / LEVELING LIFT SHALL BE COMPACTED TO A PERFORMANCE-VERIFIED IN PLACE DENSITY.
  - PLACE AND COMPACT SUBSEQUENT LIFTS OF STRUCTURAL FILL ABOVE THE CAPILLARY BREAK SYSTEM TO 95% OF THE MAX. MODIFIED PROCTOR DENSITY (MPD) (ASTM D1557). IN PLACE FILL SHALL PROVIDE A FIRM COMPACTED BASE FOR CONSTRUCTION OF THE CONCRETE WALER.
- INSTALL GEO-GRID REINFORCEMENT AS SHOWN ON DRAWING SHEET SSP-03.
- CONSTRUCT AND INSTALL CONCRETE WALER AS SHOWN, AND TO THE DIMENSIONS NOTED (AS MIN.), ON DRAWING SSP-03.
- PLACE AND COMPACT ADDITIONAL STRUCTURAL FILL TO PROVIDE A STABLE BEARING GRADE FLUSH WITH THE TOP OF THE CONCRETE WALER (ELEV. +8.0).
- USE CRANE MATS OR OTHER FORMS OF DONNAGE TO LIMIT CONSTRUCTION SURCHARGE LOADS BEHIND THE SSP WALL TO A MAX. OF 500 psf DURING DREDGING OPERATIONS.
- COMPLETE EXCAVATION TO THE SPECIFIED DREDGE LIMITS.
- BACKFILL THE DREDGE AREA ACCORDING TO THE PROJECT REQUIREMENTS AND MINIMUM SPECIFIED FINAL GEOMETRY WITHIN 48 HOURS. COMPLETING THE EXCAVATION TO THE SPECIFIED LIMITS. BACKFILL SHALL BE PLACED TO FULLY CONTACT THE OUTBOARD FACE OF THE SSP WALL AND RESTORE THE PRE-EXCAVATION PASSIVE RESISTANCE.
- THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF CONDITIONS ENCOUNTERED IN THE FIELD VARY TO ANY SIGNIFICANT DEGREE FROM THOSE CONSIDERED AND REPRESENTED IN THIS DESIGN AND/OR IF EXCESSIVE MOVEMENT OF THE SSP WALL SYSTEM (> 2") IS NOTED DURING CONSTRUCTION.



SSP WALL DESIGN SUBCONSULTANT -  
GGE PROJ. No. 08-1078

**GGE**  
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PENINSULA RESTORATION GROUP

DRWN: SCC DATE: 06/16/09  
CHKD: AEB DATE: 06/16/09  
APPD: AEB DATE: 06/16/09  
SCALE: AS SHOWN

**KEY ENVIRONMENTAL**  
**INCORPORATED**

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

PROJECT NO: 09-803/804

SSP BARRIER WALL GENERAL NOTES

SSP-04

△				REFERENCE:
△				
△	12/22/09	ISSUED FOR BID	AEB	
REV #	DATE	DESCRIPTION	APPD	

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

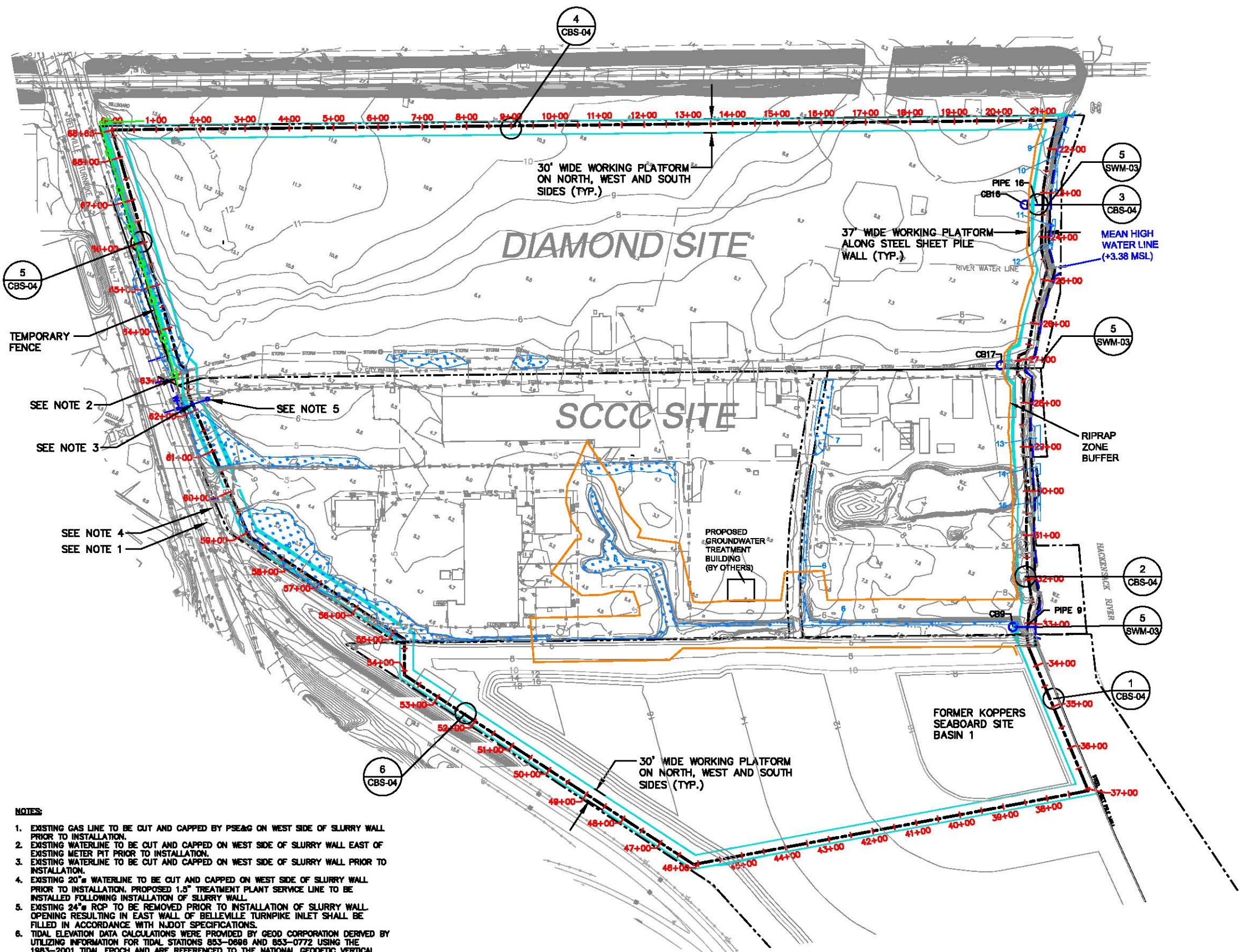
PLAN PREPARED BY: ALAN E. BRIGGS  
PROFESSIONAL ENGINEER N.J. LICENSE  
NUMBER: 24GE03878500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400



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## LEGEND

- EXISTING ACCESS ROAD
- EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
- EXISTING FENCE
- EXISTING STRUCTURES
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING GAS LINE
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- PROPERTY BOUNDARY
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING VEGETATION
- EXISTING STREAM, POND AND RIVER BANK
- EXISTING STEEL SHEET PILE WALL
- PROPOSED STEEL SHEET PILE WALL LOCATION
- PROPOSED SLURRY WALL LOCATION
- 3.38 RIPARIAN ZONE BUFFER (50 FT LANDWARD FROM MHW)
- MEAN HIGH WATER (MHW)
- 30+00 PROPOSED SLURRY WALL STATIONING (TYP.)
- WORKING PLATFORM SIDESLOPE AREAS
- EXISTING WETLANDS
- WORKING PLATFORM
- TEMPORARY FENCE

0 120 240  
FEET

## PENINSULA RESTORATION GROUP

DRWN: DJB DATE: 02/27/09  
CHKD: BTB DATE: 02/27/09  
APPD: AEB DATE: 02/27/09  
SCALE: AS SHOWN



INTERIM RESPONSE ACTION DESIGN  
SCCO AND DIAMOND SITES  
KEARNY, NEW JERSEY

SLURRY WALL PLAN

PROJECT NO: 08-803/804  
CBS-01

## NOTES

- EXISTING GAS LINE TO BE CUT AND CAPPED BY PSE&G ON WEST SIDE OF SLURRY WALL PRIOR TO INSTALLATION.
- EXISTING WATERLINE TO BE CUT AND CAPPED ON WEST SIDE OF SLURRY WALL EAST OF EXISTING METER PIT PRIOR TO INSTALLATION.
- EXISTING WATERLINE TO BE CUT AND CAPPED ON WEST SIDE OF SLURRY WALL PRIOR TO INSTALLATION.
- EXISTING 20" WATERLINE TO BE CUT AND CAPPED ON WEST SIDE OF SLURRY WALL PRIOR TO INSTALLATION. PROPOSED 1.5" TREATMENT PLANT SERVICE LINE TO BE INSTALLED FOLLOWING INSTALLATION OF SLURRY WALL.
- EXISTING 24" RCP TO BE REMOVED PRIOR TO INSTALLATION OF SLURRY WALL. OPENING RESULTING IN EAST WALL OF BELLEVILLE TURNPIKE INLET SHALL BE FILLED IN ACCORDANCE WITH NJDOT SPECIFICATIONS.
- TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0888 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
- SIGNIFICANT PORTIONS OF THE SITE ARE LOCATED WITHIN THE 100-YEAR FLOODPLAIN (SEE FEMA MAPS IN LURP APPLICATION FOR LOCATION OF FLOOD HAZARD ELEVATION). THE FLOOD HAZARD ELEVATION IS +9 FT MSL.

## REFERENCE:

- EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1983). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
- PROPERTY BOUNDARY SHOWN HEREIN FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 48, 49, 50, 51, 52 AND 53, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2008 (NEWSON 2 JULY 28, 2008), PREPARED BY DYKSTRA ASSOCIATES, PC.
- EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2008.

## ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

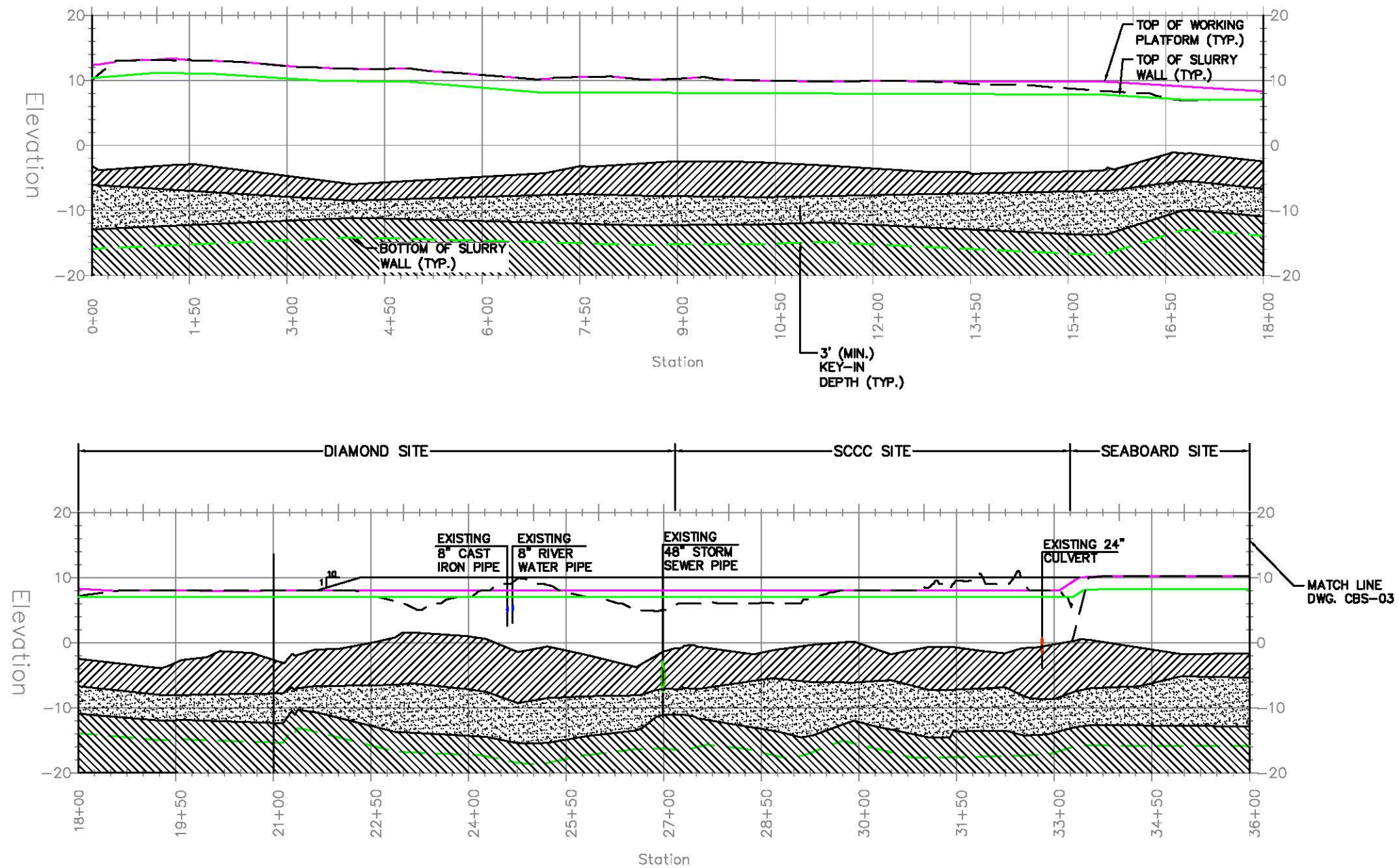
PLAN PREPARED BY:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24603678500

SIGNATURE DATE

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

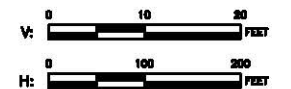


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## LEGEND

- |  |                                  |
|--|----------------------------------|
|  | FILL                             |
|  | MEADOWMAT                        |
|  | SAND                             |
|  | VARVED CLAY                      |
|  | PROPOSED TOP OF SLURRY WALL      |
|  | PROPOSED BOTTOM OF SLURRY WALL   |
|  | EXISTING GROUND SURFACE          |
|  | PROPOSED TOP OF WORKING PLATFORM |
|  | FINAL GRADE                      |



### NOTES:

1. PROPOSED TOP OF SLURRY WALL AS SHOWN HEREIN REPRESENTS A MINIMUM ELEVATION FOR CONSTRUCTION PURPOSES. CONTRACTOR MAY INCREMENTALLY "STEP" THE ADJOINING SLURRY WALL PANELS TO ACHIEVE THE MINIMUM ELEVATION, SUBJECT TO APPROVAL BY THE ENGINEER.
2. UTILITY LOCATIONS AND DEPTHS BELOW GROUND SURFACE ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL VERIFY UTILITY LOCATIONS AND DEPTHS BELOW GROUND SURFACE DURING THE WORK.
3. BOTTOM OF SLURRY WALL SHALL EXTEND A MIN OF 3' INTO THE VARVED CLAY LAYER.

### REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARED BY:  
ALAN E. BRUGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 246ED3678500

SIGNATURE

DATE

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

## PENINSULA RESTORATION GROUP

DRWN: DJB	DATE: 05/14/09
CHKD: DF	DATE: 05/14/09
APPD: AEB	DATE: 05/14/09
SCALE:	AS SHOWN

**KEY** ENVIRONMENTAL  
INCORPORATED

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SLURRY WALL  
PROFILE 1 OF 2

PROJECT NO: 09-803/804  
CBS-02

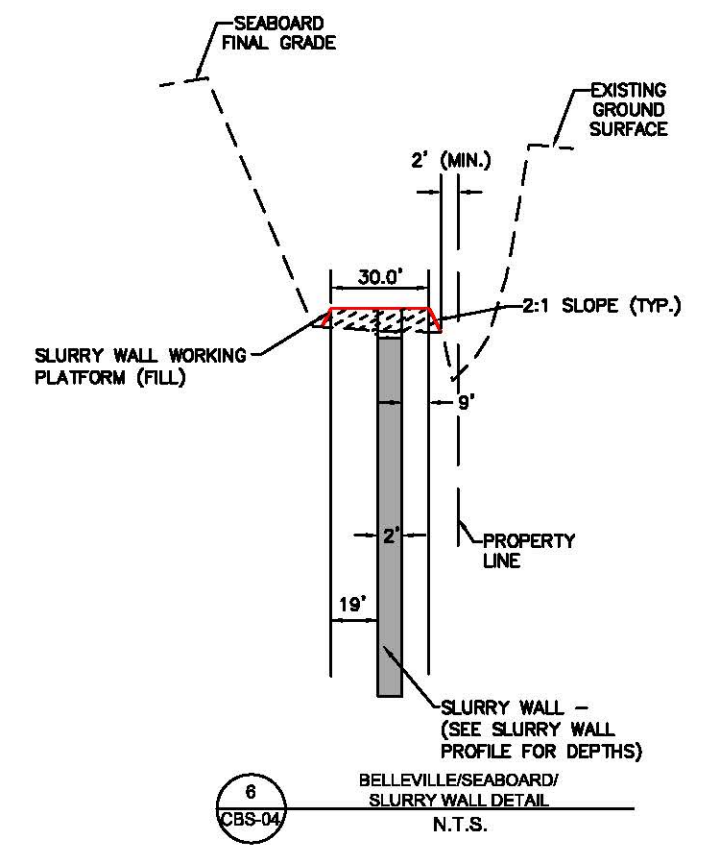
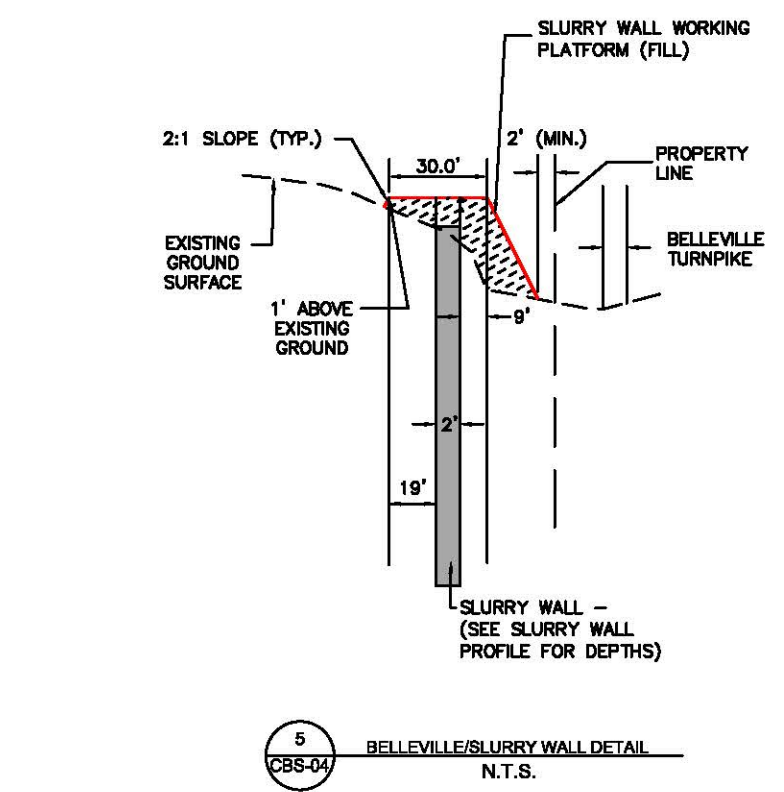
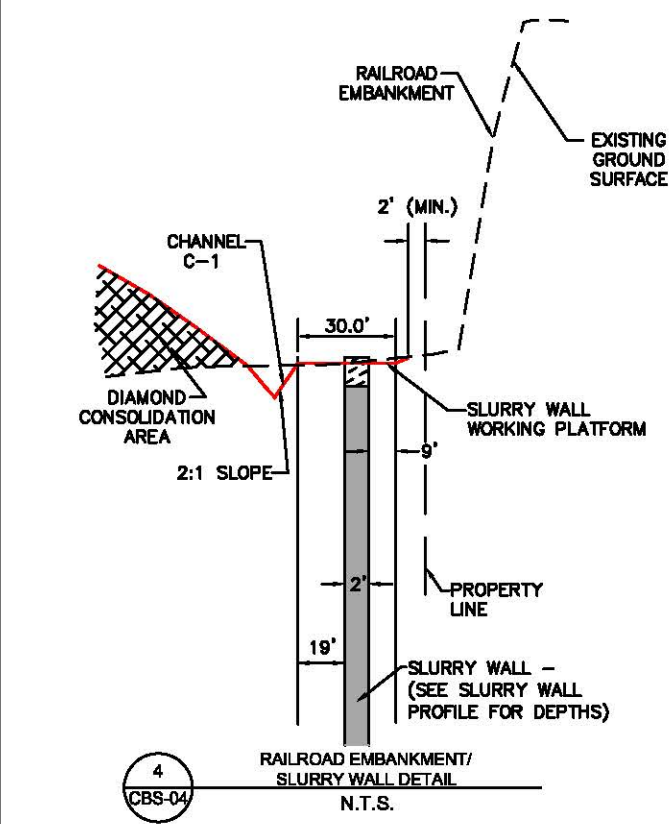
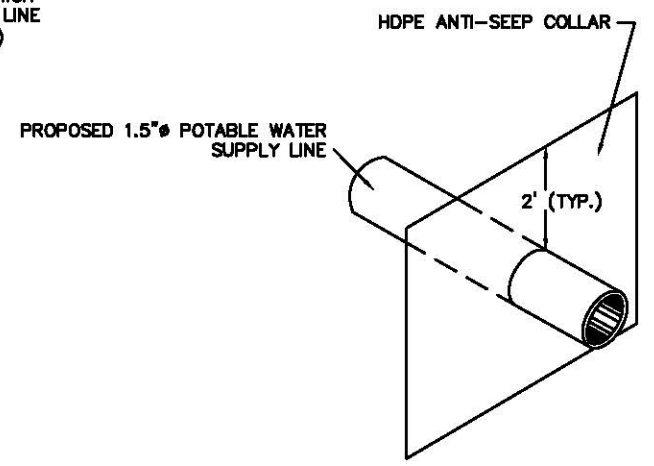
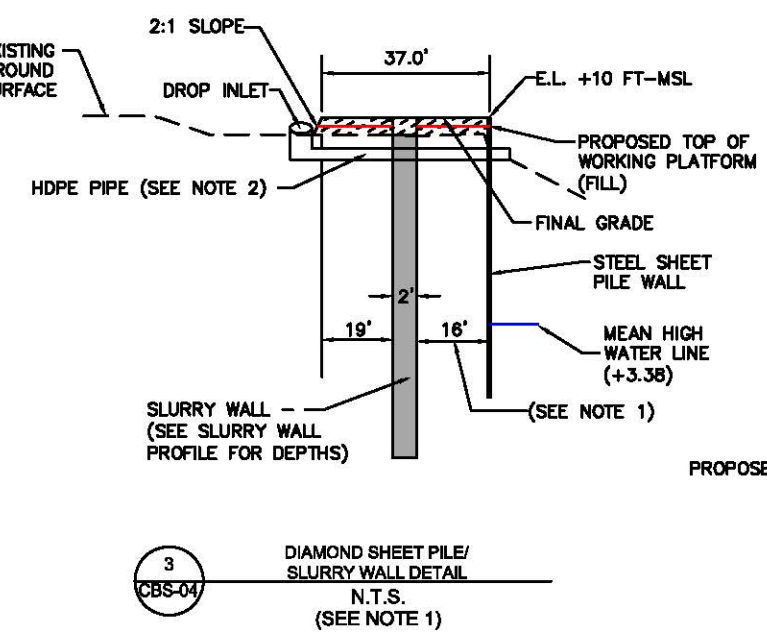
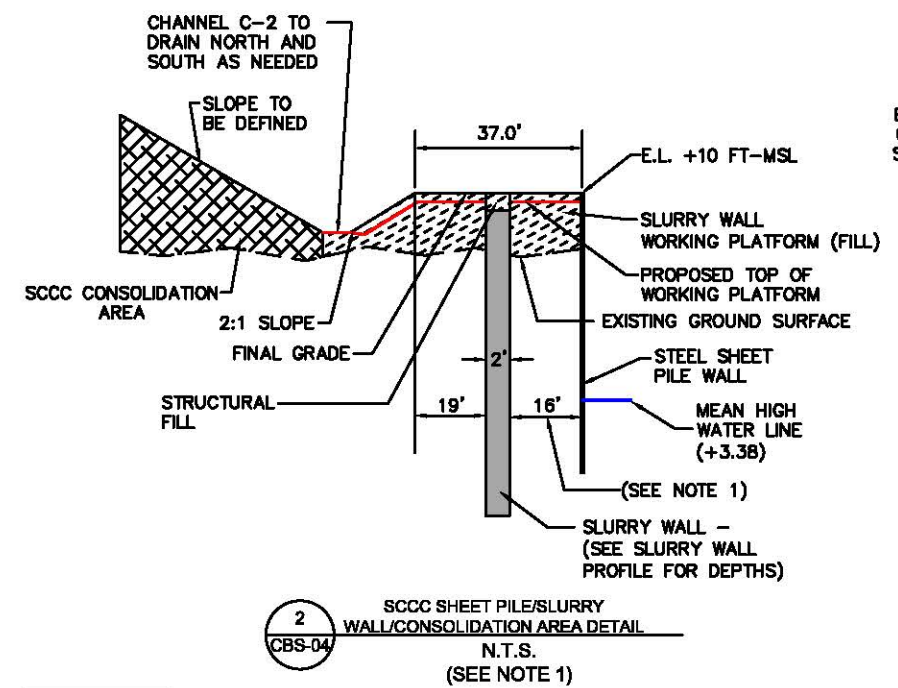
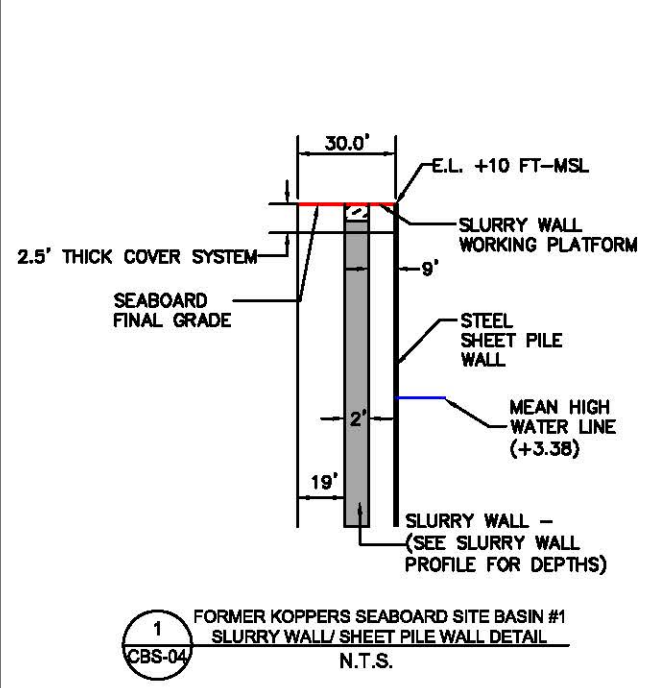
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△	12/18/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION	APPD







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- NOTES:**
1. TOTAL CLEARANCE BETWEEN SLURRY WALL AND STEEL SHEET PILE WALL OF 15.5' REQUIRED TO AVOID DAMAGE TO GEOGRID IN WORKING PLATFORM. SEE DETAIL 2 ON DRAWING SSP-03.
  2. FOR CULVERT PENETRATION THROUGH SLURRY WALL/STEEL SHEET PILE WALL SEE DETAIL 5 ON DRAWING SWM-03.
  3. PENETRATION DETAIL SHOWN HEREON TO BE UTILIZED WHERE THE PROPOSED 1.5" POTABLE WATER SUPPLY LINE WILL CROSS SLURRY WALL. SEE DRAWING CBS-01 FOR CROSSING LOCATION. ANTI-SEEP COLLAR TO BE INSTALLED AFTER CONSTRUCTION OF SLURRY WALL. EXCAVATION TO BE BACKFILLED WITH FRESH SLURRY WALL MATERIAL. CONTRACTOR TO PROVIDE SHOP DRAWING/SUBMITTAL FOR ENGINEERING REVIEW/APPROVAL DEPICTING MEANS OF SECURING ANTI-SEEP COLLAR TO PIPE TO FORM A WATERTIGHT CONNECTION.
  4. FOR ELEVATIONS OF TOP OF WORKING PLATFORM AND SLURRY WALL SEE DRAWINGS CBS-02 AND CBS-03.
  5. TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).

REV #	DATE	DESCRIPTION	APPRO
1	12/22/09	ISSUED FOR BID	AEB

REFERENCE:	ISSUE DATE:
	KEY ENVIRONMENTAL, INC. 200 THIRD AVENUE CARNEGIE, PA 15106

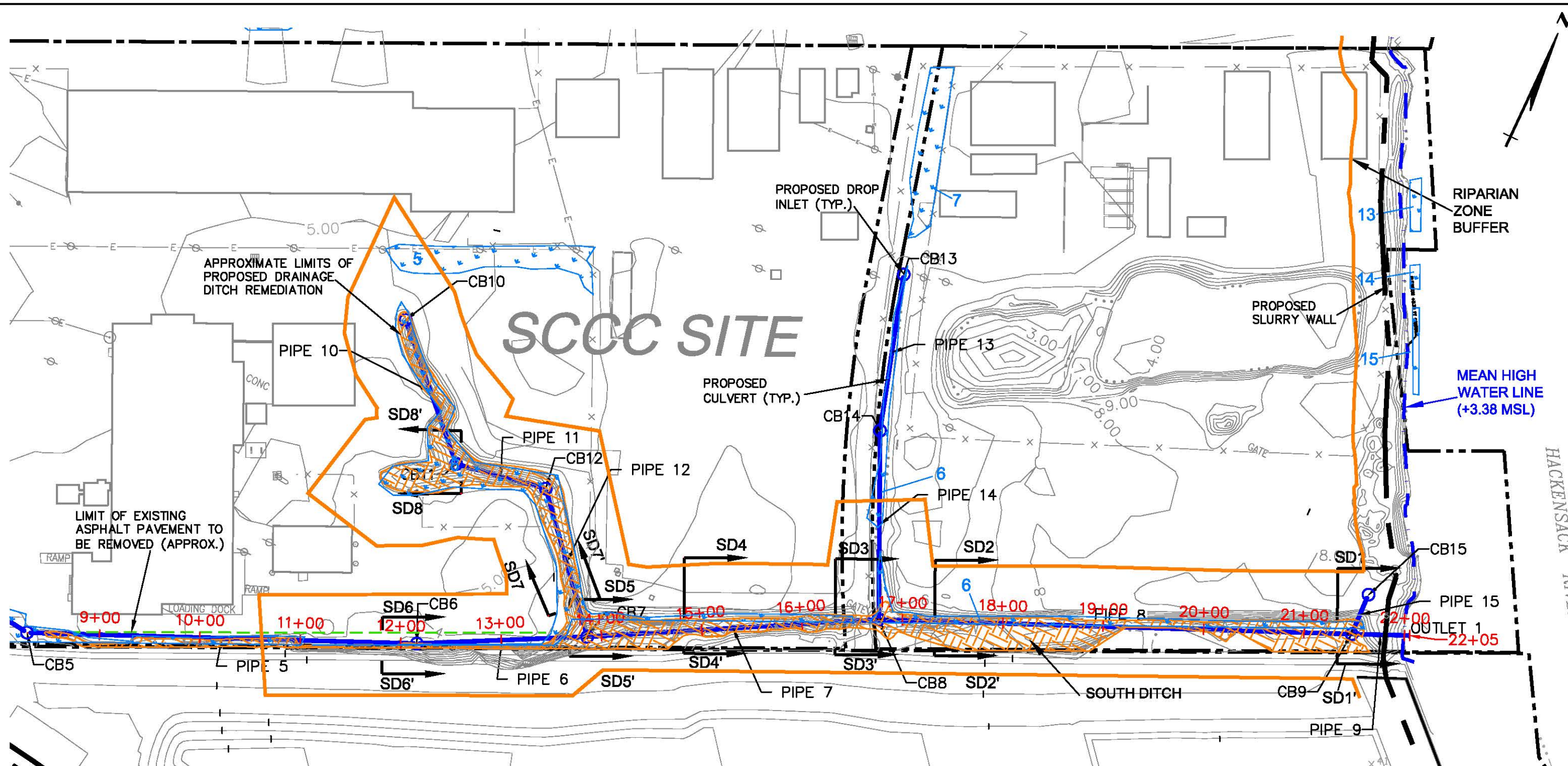
PLAN PREPARED BY: ALAN E. BRUGGS PROFESSIONAL ENGINEER N.J. LICENSE NUMBER: 24603878500	SIGNATURE	DATE
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CERTIFICATE OF AUTHORIZATION TO OFFER ENGINEERING SERVICES 24GA27961400
---

PENINSULA RESTORATION GROUP	
DRWN: DJB CHKD: DF APPD: AEB SCALE: NOT TO SCALE	DATE: 03/30/09 DATE: 03/30/09 DATE: 03/30/09
INTERIM RESPONSE ACTION DESIGN SCCC AND DIAMOND SITES KEARNY, NEW JERSEY	
SLURRY WALL DETAILS	PROJECT NO: 09-803/804 CBS-04



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## LEGEND

- EXISTING ACCESS ROAD
- EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
- EXISTING FENCE
- EXISTING STRUCTURES
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE

- APPROXIMATE LIMITS OF PROPOSED DRAINAGE DITCH REMEDIATION (EXCAVATION AND BACKFILL)
- PROPERTY BOUNDARY
- EXISTING CONCRETE PAD
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- RIPARIAN ZONE BUFFER (50 FEET LANDWARD FROM MHW)
- MEAN HIGH WATER (MHW)
- PROPOSED SLURRY WALL

- EXISTING VEGETATION
- EXISTING ELEVATION (FEET-MSL)
- PROPOSED CULVERT
- PROPOSED DROP INLET
- PROPOSED CULVERT STATIONING (TYP.)
- CROSS SECTION LOCATION
- EXISTING WETLANDS

## NOTES:

- FOR CROSS SECTIONS SEE DRAWING SD-02.
- TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
- SIGNIFICANT PORTIONS OF THE SITE ARE LOCATED WITHIN THE 100-YEAR FLOOD PLAIN (SEE FEMA MAPS IN LURP APPLICATION FOR LOCATION OF FLOOD HAZARD ELEVATION). THE FLOOD HAZARD ELEVATION IS +9 FT MSL.

0 100 200  
FEET

PENINSULA RESTORATION GROUP

DRWN: DJB	DATE: 05/13/09
CHKD: BJS	DATE: 05/13/09
APPD: AEB	DATE: 05/13/09
SCALE: AS SHOWN	



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SOUTH DITCH  
REMEDATION PLAN

PROJECT NO: 09-803/804  
SD-01

REV #	DATE	DESCRIPTION	APPD
1	12/22/08	ISSUED FOR BID	AEB
2			
3			

REFERENCE:

- EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1983). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
- PROPERTY BOUNDARY SHOWN HEREIN FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (NEWSON 2: JULY 28, 2009), PREPARED BY DYNASTIA ASSOCIATES, PC.
- EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2008.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CANNON, PA 15106

PLAN PREPARED BY:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 246203678500

SIGNATURE

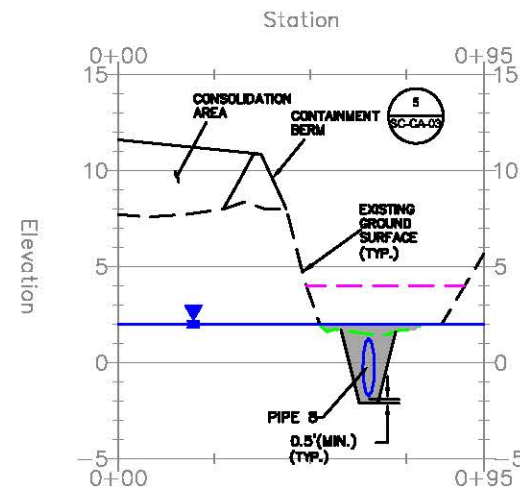
DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

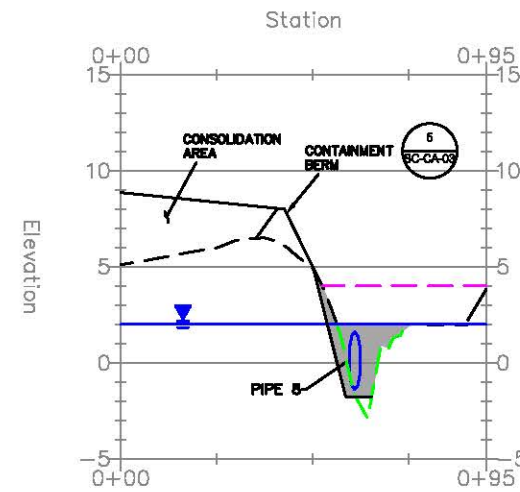


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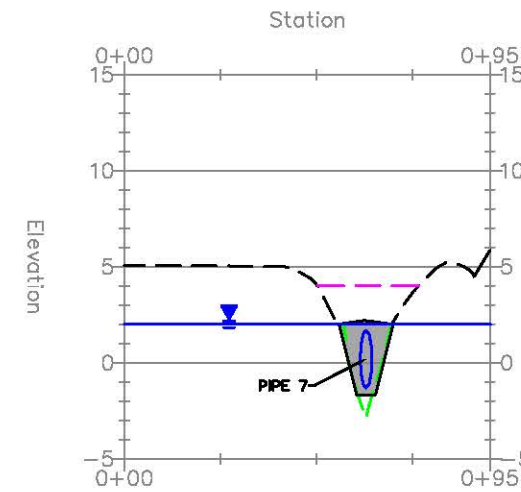
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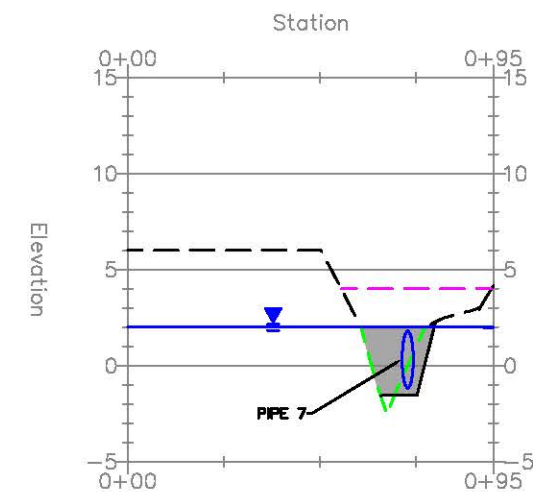
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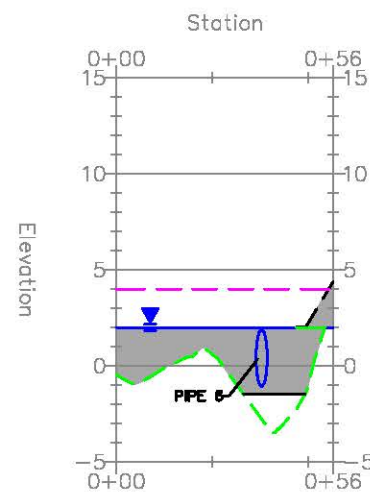
SD3-SD3' CROSS SECTION



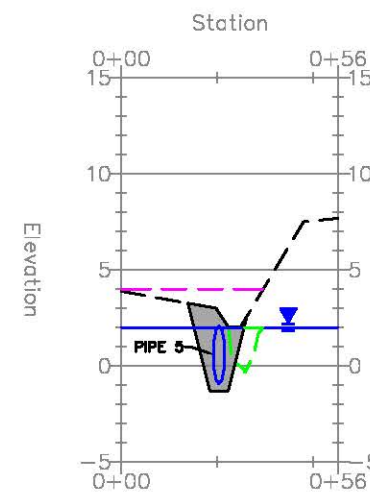
SD4-SD4' CROSS SECTION



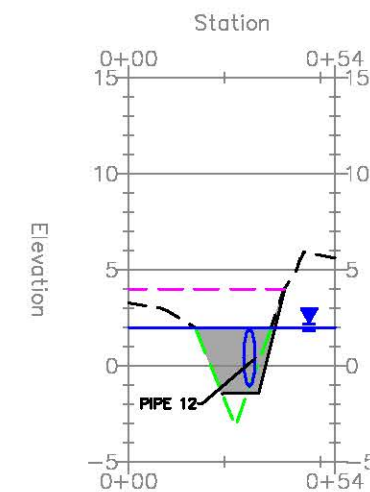
SD5-SD5' CROSS SECTION



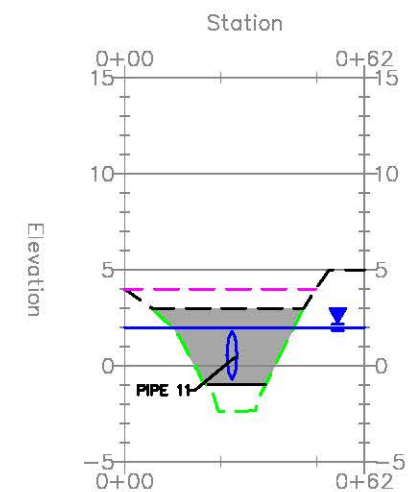
SD6-SD6' CROSS SECTION






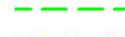


SD7-SD7' CROSS SECTION



SD8-SD8' CROSS SECTION



## LEGEND

-  PROPOSED HDPE CULVERT  
(SEE NOTE 1)
-  EXISTING GROUND SURFACE
-  POST-REMEDIAL GROUNDWATER SURFACE
-  ESTIMATED EXTENT OF EXISTING SEDIMENTS
-  PROPOSED GROUND SURFACE
-  LIMITS OF SEDIMENT/SOIL REMOVAL

## NOTES:

1. FOR LOCATION OF PROPOSED HDPE CULVERT  
SEE DRAWINGS SD-01 AND SWM-01.

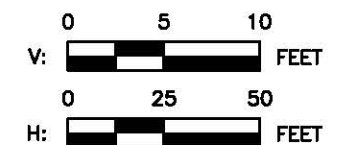
PLAN PREPARED BY:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24603878500

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CANNON, PA 15106

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400



PENINSULA RESTORATION GROUP

DRWN: SCC    DATE: 05/13/09  
CHKD: BTS    DATE: 05/13/09  
APPD: AEB    DATE: 05/13/09  
SCALE: AS SHOWN

**KEY** ENVIRONMENTAL  
INCORPORATED

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SOUTH DITCH REMEDIATION  
PROFILES AND CROSS SECTIONS

PROJECT NO: 09-B03/B04  
SD-02

REV #	DATE	DESCRIPTION	APPD
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# LEGEND

- EXISTING ACCESS ROAD
  - EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
  - EXISTING FENCE
  - EXISTING STRUCTURES
  - EXISTING UTILITY POLES
  - EXISTING LIGHT STANDARD
  - EXISTING OVERHEAD POWER LINE
  - PROPERTY BOUNDARY
  - EXISTING GROUND SURFACE ELEVATION CONTOURS
  - EXISTING VEGETATION
  - EXISTING STREAM, POND AND RIVER BANK
  - PROPOSED SLURRY WALL LOCATION
  - SCCC CONSOLIDATION AREA CONTOURS
  - RIPARIAN ZONE BUFFER (50 FEET LANDWARD FROM MHW)
  - DIVERSION BERM
  - MEAN HIGH WATER (MHW)
  - PROPOSED FINAL SURFACE CONTOUR
  - PROPOSED STORM SEWER PIPE
  - PROPOSED DROP INLETS
  - PROPOSED TREATED WATER PERMITTED DISCHARGE
  - PROPOSED FILL (SOUTH DITCH)
  - CROSS-SECTION LOCATION
  - PROPOSED STEEL SHEET PILE WALL LOCATION
  - PROPOSED RIPRAP APRON
  - PROPOSED CONTAINMENT DIKE
  - EXISTING WETLANDS
  - PROPOSED INTERIM SURFACE COVER
  - PROPOSED DRAINAGE CHANNEL
  - CHANNEL REACH POINT
- 0 50 100 FEET

## NOTES:

- TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
- SIGNIFICANT PORTIONS OF THE SITE ARE LOCATED WITHIN THE 100-YEAR FLOODPLAIN (SEE FEMA MAPS IN LURP APPLICATION FOR LOCATION OF FLOOD HAZARD ELEVATION). THE FLOOD HAZARD ELEVATION IS +9 FT MSL.

## REFERENCE:

- EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
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- EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2008.

## ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARED BY:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 246803878500

SIGNATURE DATE

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

## PENINSULA RESTORATION GROUP

DRWN: WAA DATE: 04/15/09  
CHKD: JAB DATE: 04/15/09  
APPD: AEB DATE: 04/15/09  
SCALE: AS SHOWN



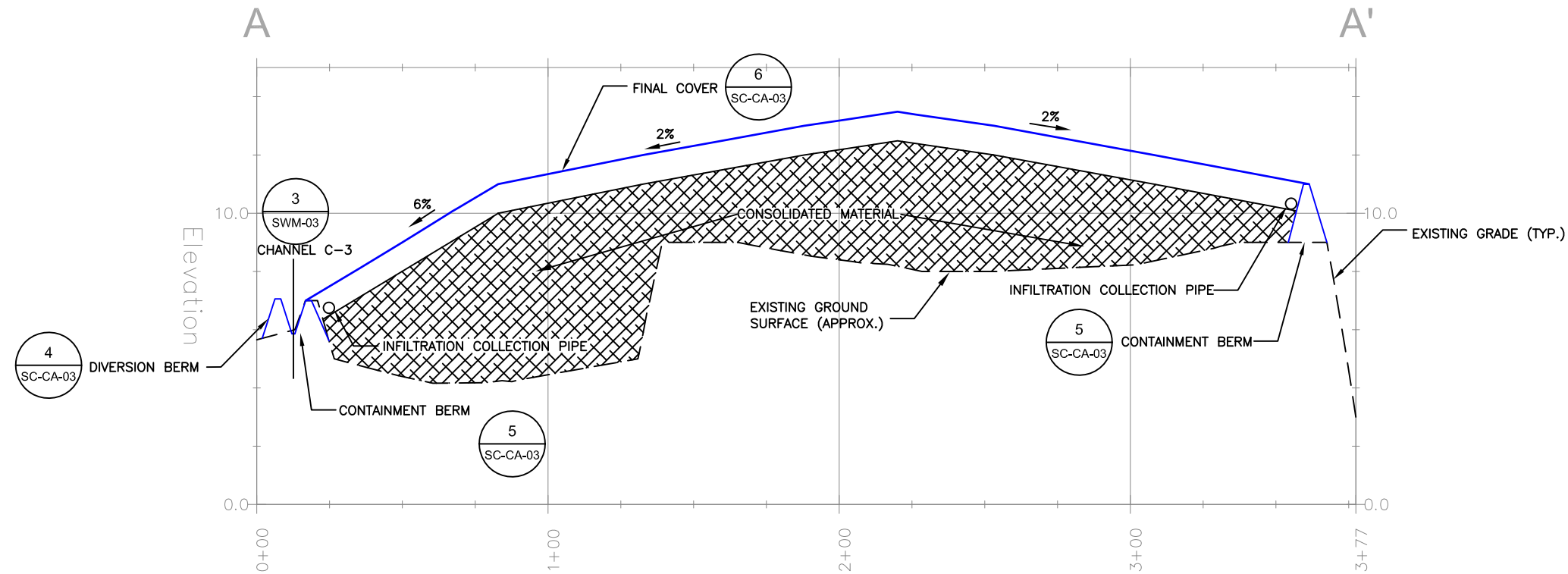
INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SCCC CONSOLIDATION AREA  
CONSTRUCTION PLAN

PROJECT NO: 06-803/04  
SC-CA-01



# SCCC CONSOLIDATION AREA PROFILE



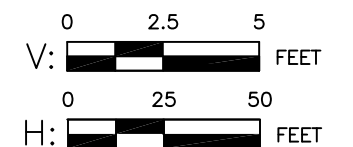
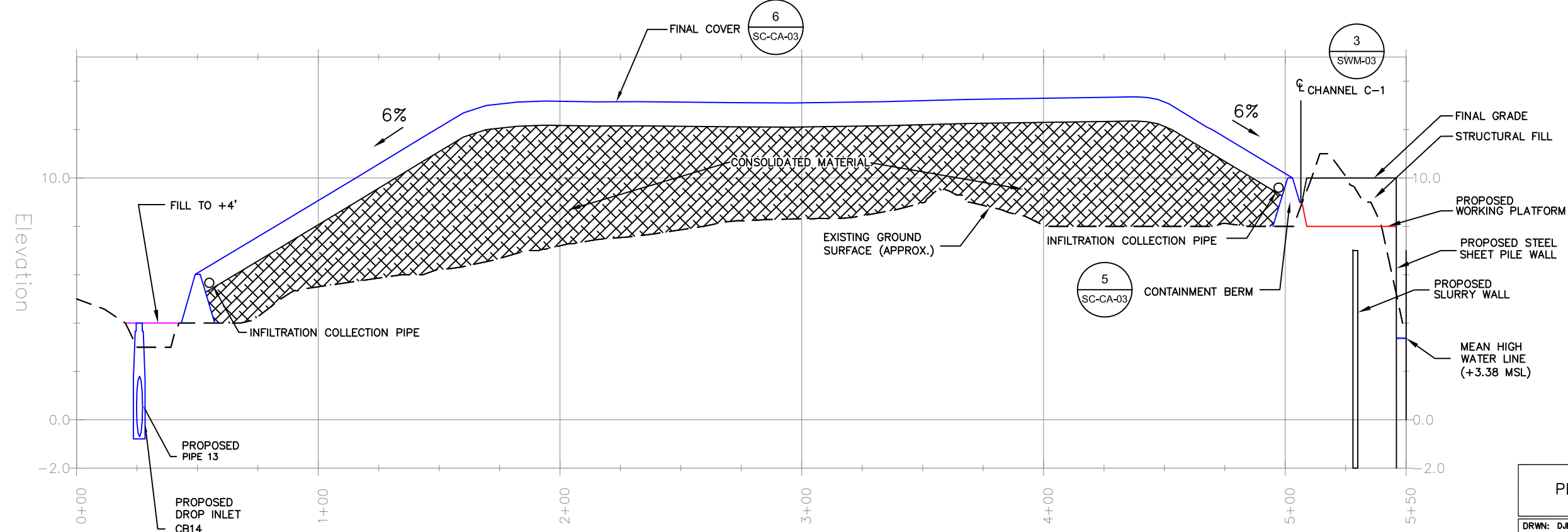
## LEGEND

- EXISTING GROUND SURFACE
- PROPOSED TOP OF FINAL COVER
- WORKING PLATFORM
- CONSOLIDATED MATERIAL

### NOTES:

1. TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
2. FINAL GRADES FOR THE CONSOLIDATION AREA ARE APPROXIMATE, AND MAY VARY FROM THOSE SHOWN, DEPENDING ON THE TOTAL VOLUME OF SEDIMENT AND SPOILS PLACED WITHIN THE CONTAINMENT, AND SUBJECT TO APPROVAL BY THE ENGINEER.

# SCCC CONSOLIDATION AREA PROFILE



## PENINSULA RESTORATION GROUP

DRWN: DJB DATE: 03/03/09  
CHKD: DF DATE: 03/03/09  
APPD: AEB DATE: 03/03/09  
SCALE: AS SHOWN



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SCCC CONSOLIDATION AREA  
CROSS SECTIONS

PROJECT NO: 09-803/04  
SC-CA-02

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

SIGNATURE DATE

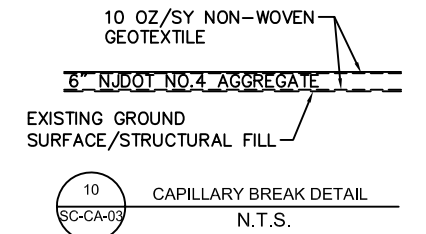
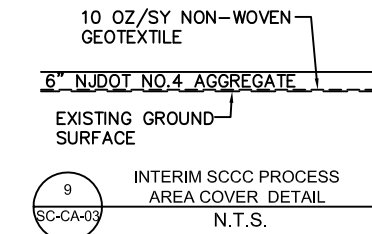
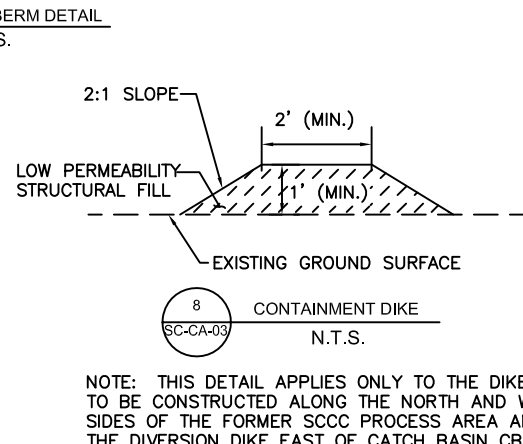
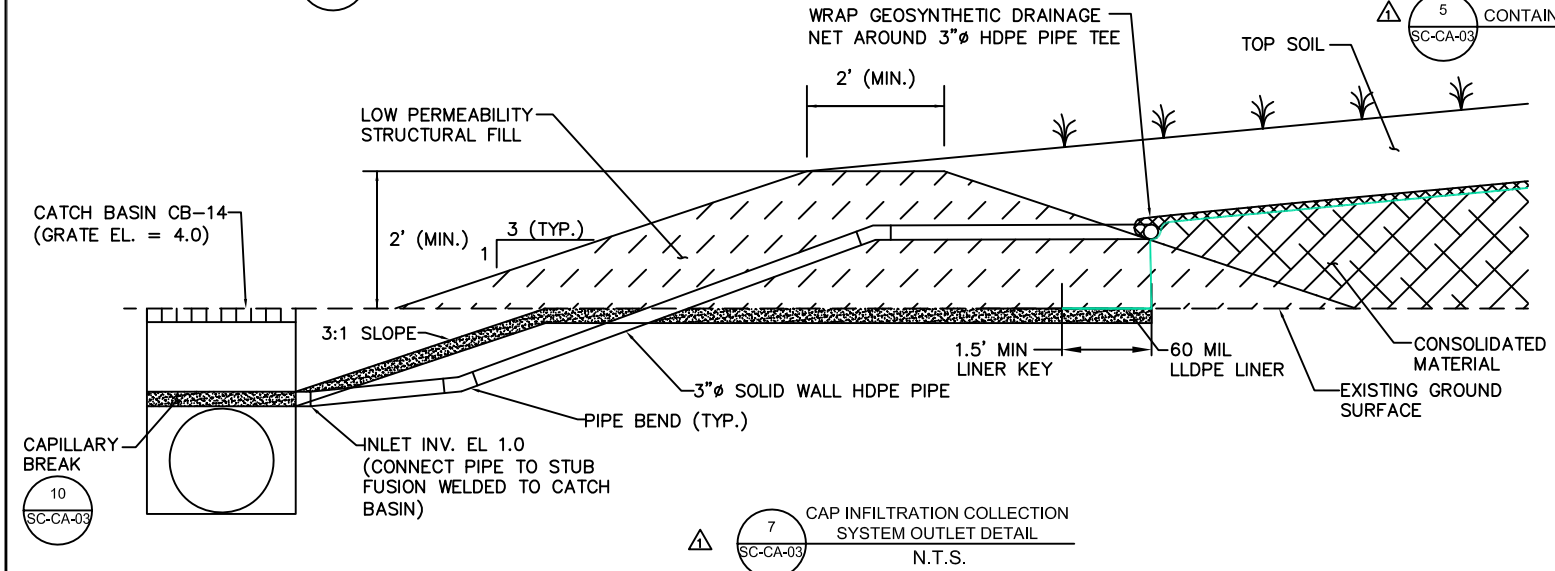
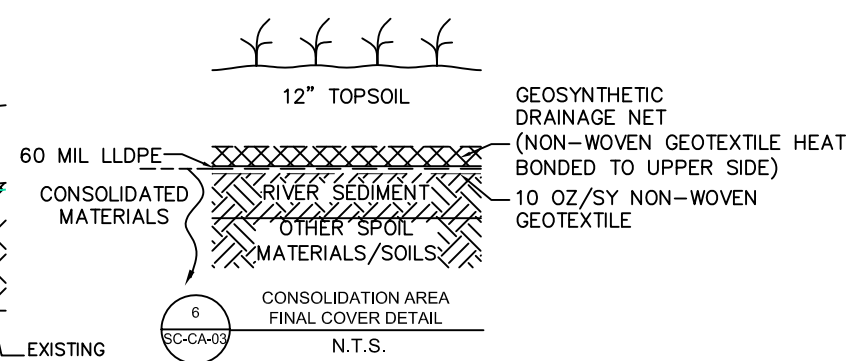
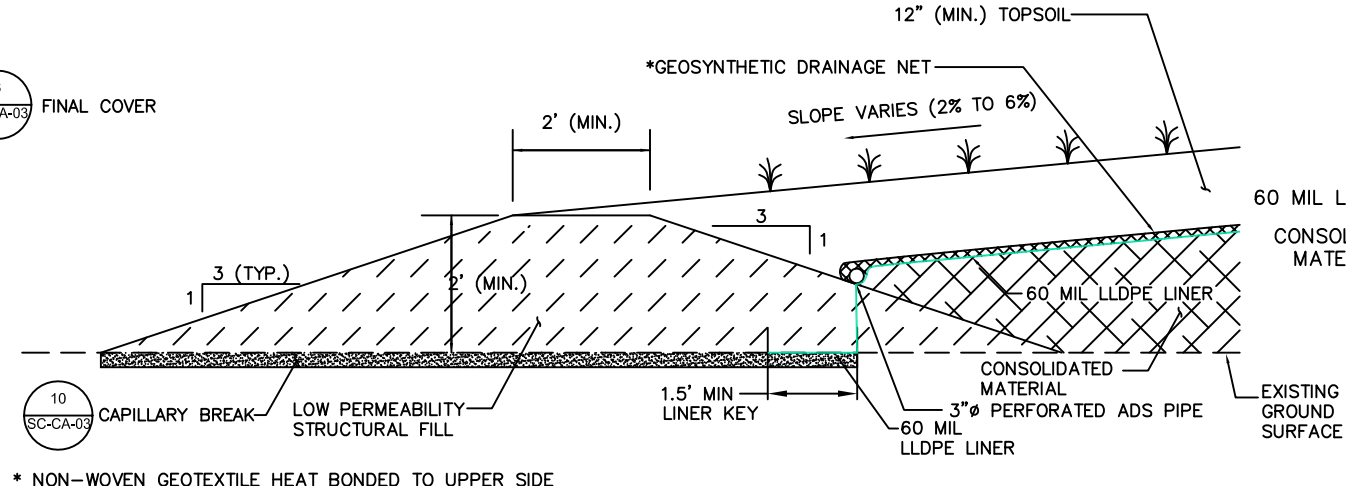
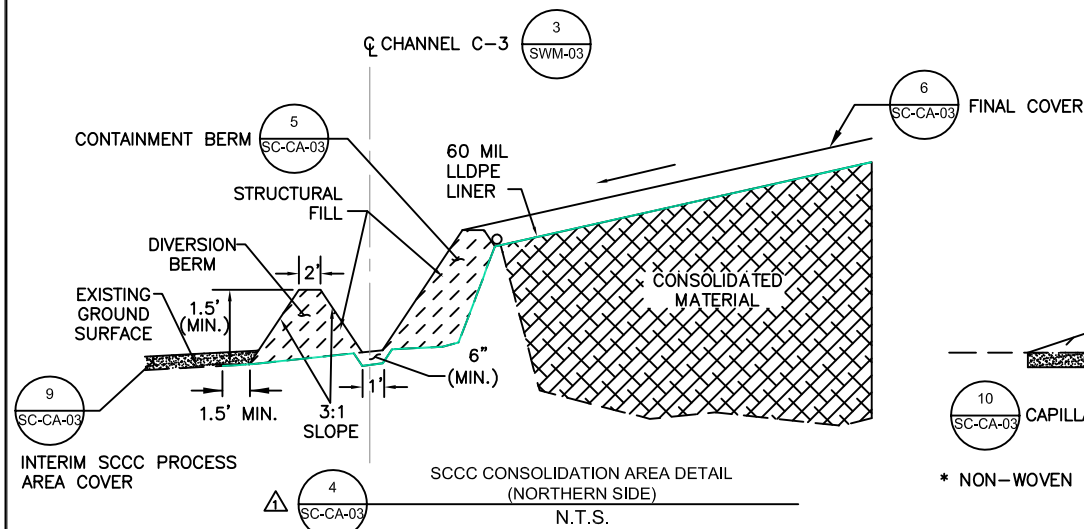
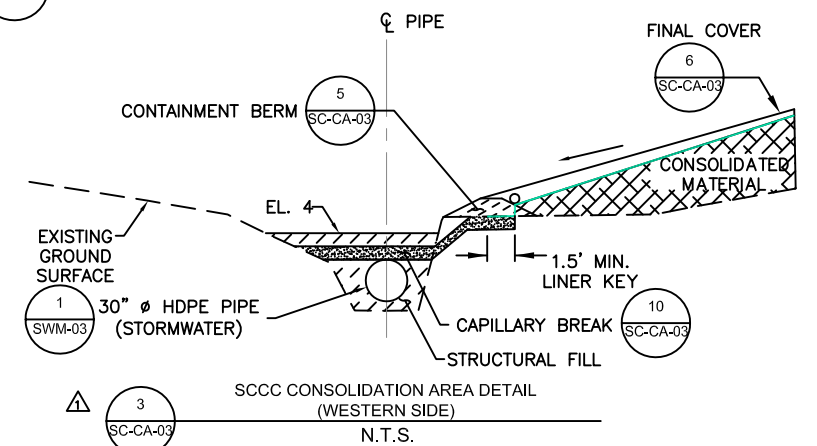
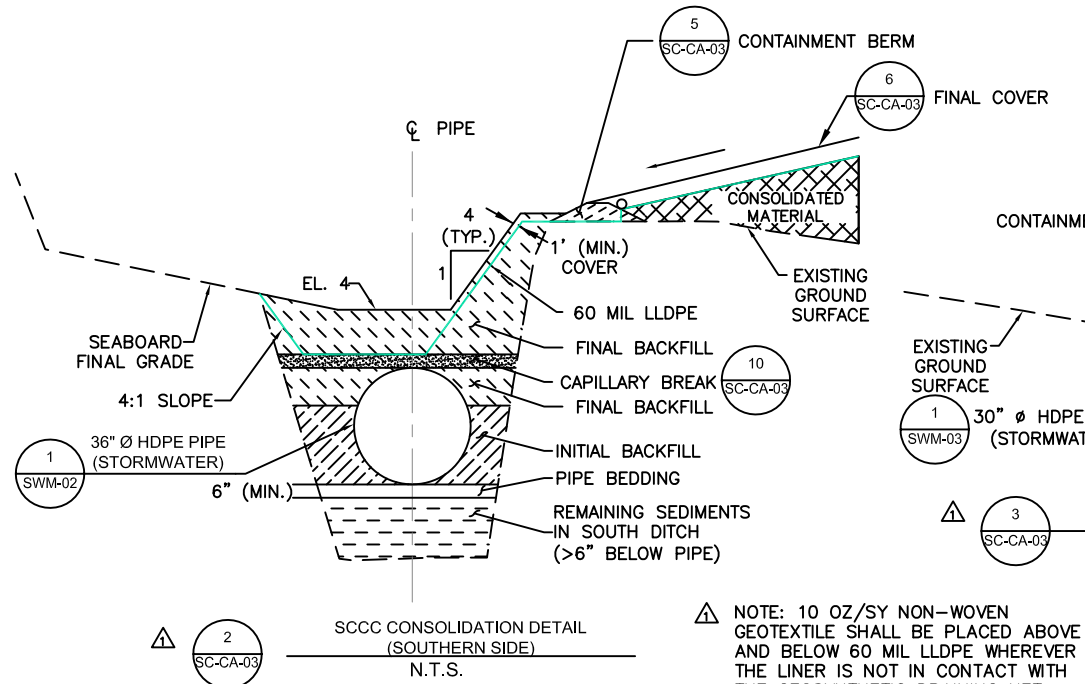
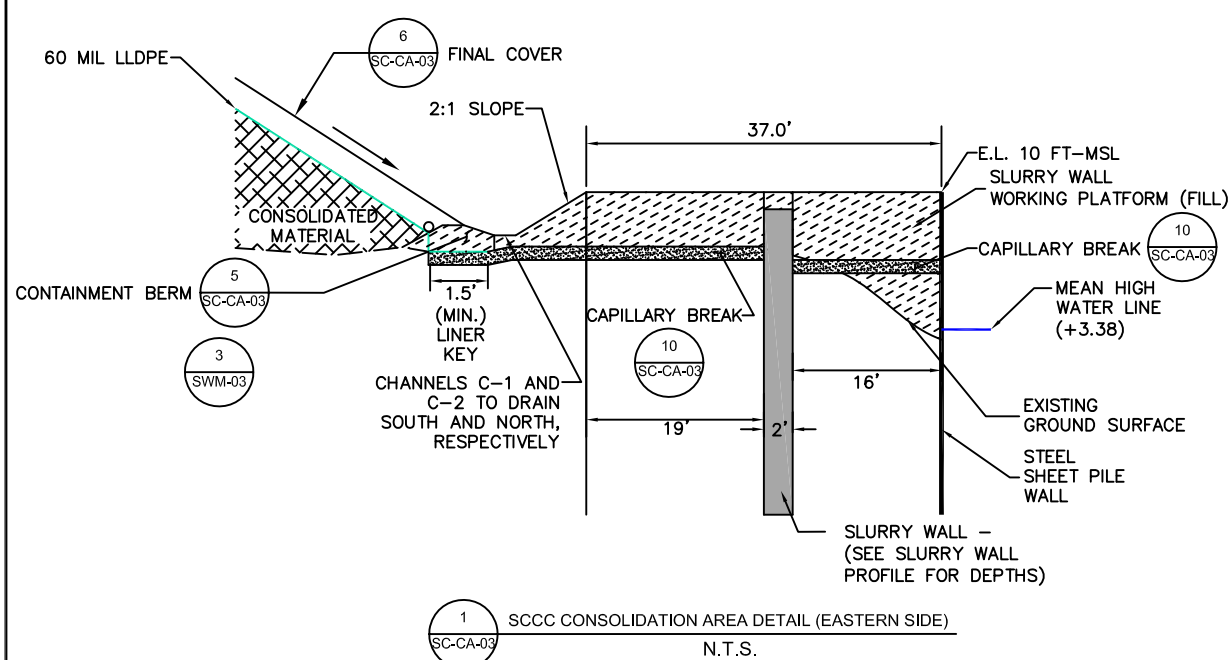
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

REFERENCE:

REV #	DATE	DESCRIPTION	APPD
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2			



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REV #	DATE	DESCRIPTION	APPD
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REFERENCE:	

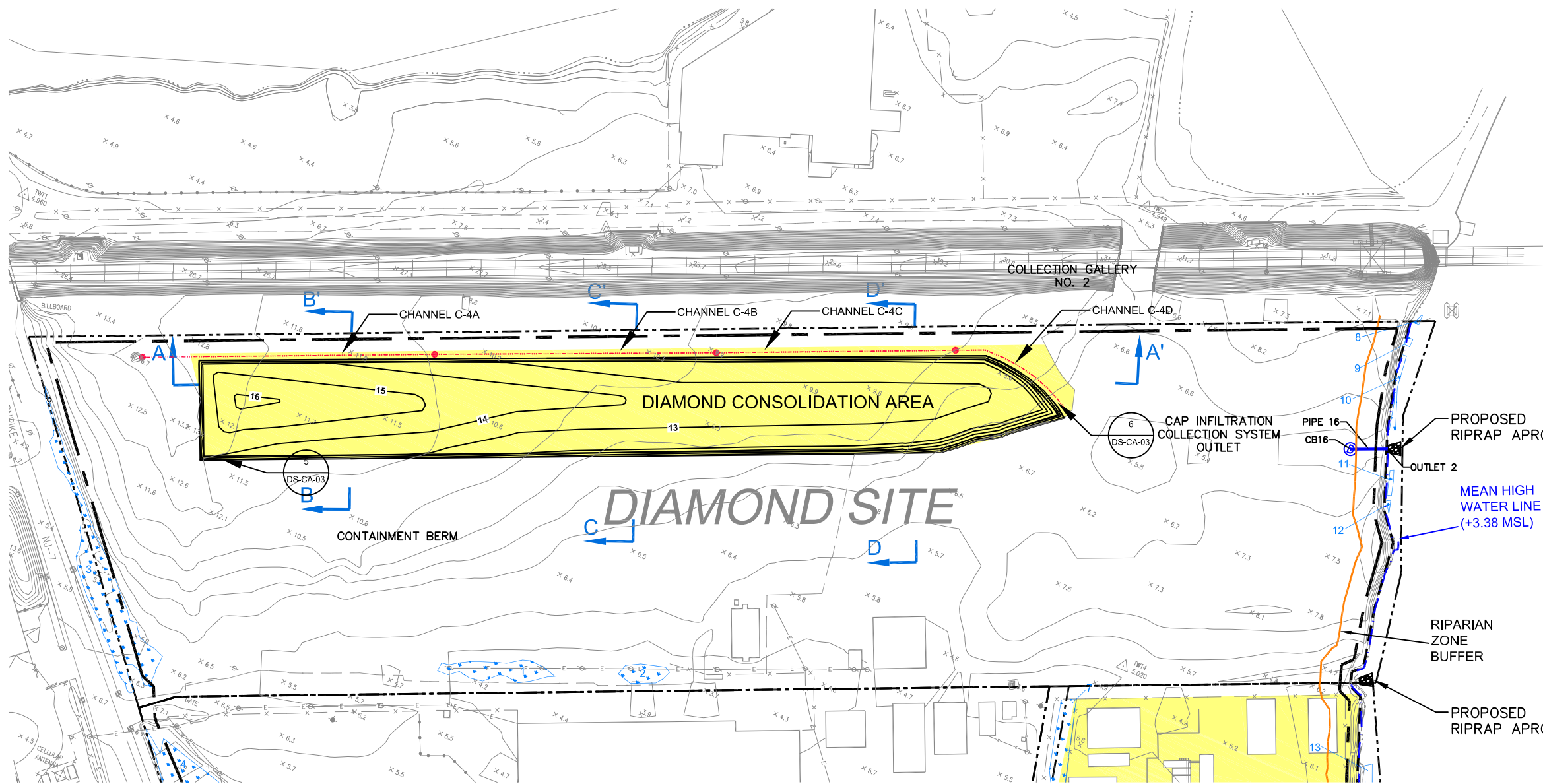
ISSUE DATE:	
KEY ENVIRONMENTAL, INC. 200 THIRD AVENUE CARNEGIE, PA 15106	

CERTIFICATE OF AUTHORIZATION TO OFFER ENGINEERING SERVICES 24GA27961400
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PENINSULA RESTORATION GROUP	
DRWN: DJB CHKD: DF APPD: AEB SCALE: NOT TO SCALE	DATE: 07/06/09 DATE: 07/06/09 DATE: 07/06/09
INTERIM RESPONSE ACTION DESIGN SCCC AND DIAMOND SITES KEARNY, NEW JERSEY	
SCCC CONSOLIDATION AREA DETAILS	PROJECT NO: 09-803/804 SC-CA-03



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## LEGEND

- EXISTING ACCESS ROAD
- EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
- EXISTING FENCE
- EXISTING STRUCTURES
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE
- PROPERTY BOUNDARY
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING VEGETATION
- EXISTING STREAM, POND AND RIVER BANK
- PROPOSED SLURRY WALL LOCATION
- RIPARIAN ZONE BUFFER (50 FT LANDWARD FROM MHW)
- MEAN HIGH WATER (MHW)
- PROPOSED SURFACE CONTOUR
- CROSS-SECTION (SEE DRAWING DS-CA-02)
- PROPOSED STEEL SHEET PILE WALL LOCATION
- PROPOSED DRAINAGE CHANNEL
- CHANNEL REACH POINT
- PROPOSED INTERIM SURFACE COVER
- EXISTING WETLANDS

### NOTES:

- TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929)
- SIGNIFICANT PORTIONS OF THE SITE ARE LOCATED WITHIN THE 100-YEAR FLOODPLAIN (SEE FEMA MAPS IN LURP APPLICATION FOR LOCATION OF FLOOD HAZARD ELEVATION). THE FLOOD HAZARD ELEVATION IS +9 FT MSL.

0 100 200  
FEET

PENINSULA RESTORATION GROUP

DRWN: DJB DATE: 03/25/09  
CHKD: JAB DATE: 03/25/09  
APPD: AEB DATE: 03/25/09  
SCALE: AS SHOWN

**KEY ENVIRONMENTAL**  
INCORPORATED

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

DIAMOND CONSOLIDATION AREA  
CONSTRUCTION PLAN

PROJECT NO: 09-803/04  
DS-CA-01

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE DATE

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

#### REFERENCE:

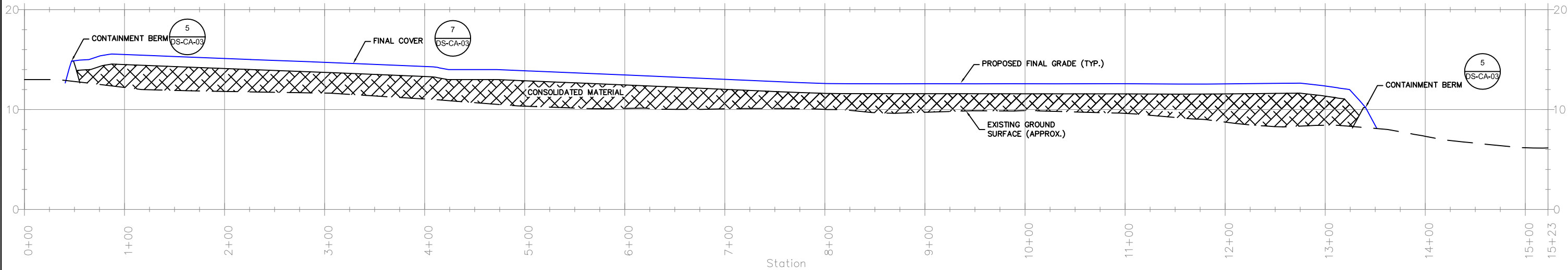
- EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
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- EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.

REV #	DATE	DESCRIPTION	APPD
1	12/22/09	ISSUED FOR BID	AEB

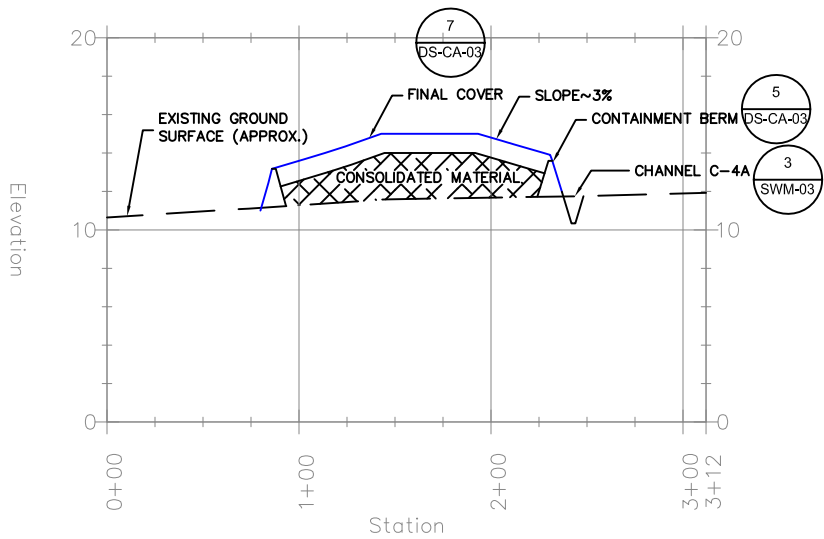


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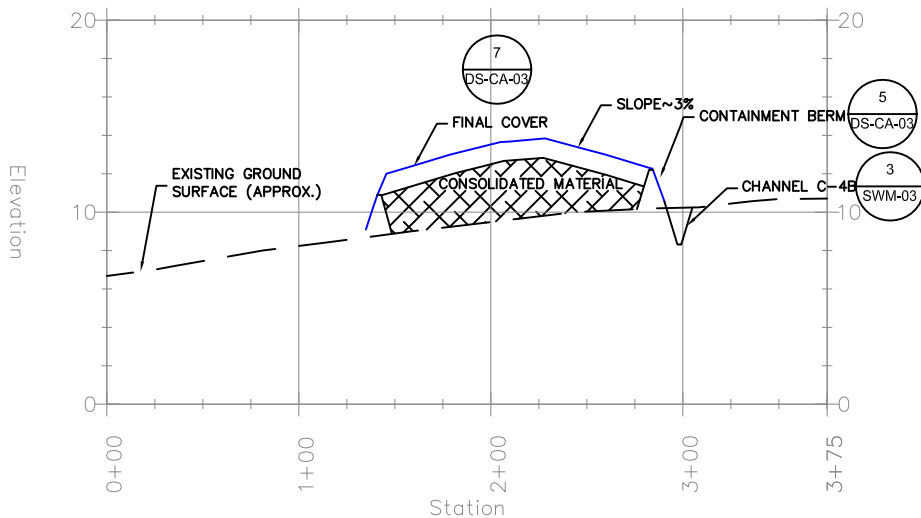
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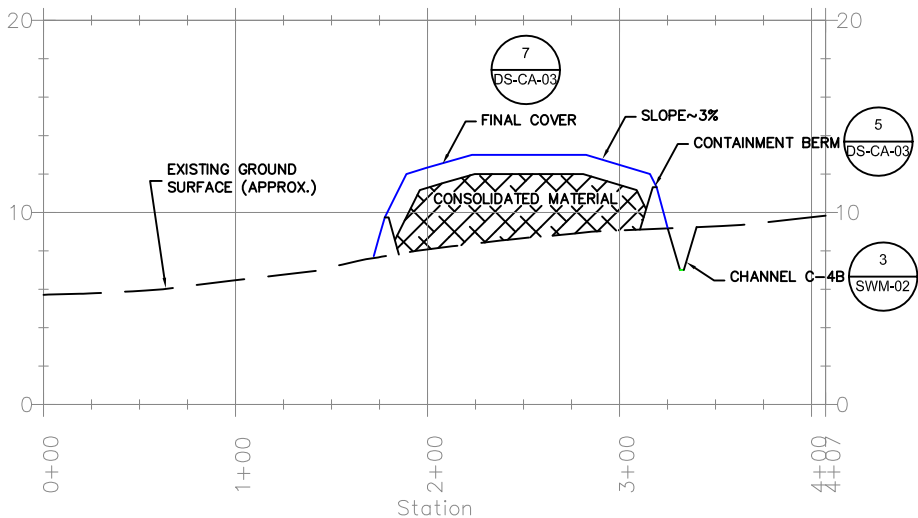
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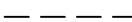

CROSS SECTION C-C'



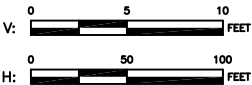
CROSS SECTION D-D'



LEGEND

-  PROPOSED TOP OF FINAL COVER
-  EXISTING GROUND SURFACE
-  CONSOLIDATED MATERIAL

- NOTES:
1. FINAL GRADES FOR THE CONSOLIDATION AREA ARE APPROXIMATE, AND MAY VARY FROM THOSE SHOWN, DEPENDING ON THE TOTAL VOLUME OF SEDIMENT AND SPOILS PLACED WITHIN THE CONTAINMENT, AND SUBJECT TO APPROVAL BY THE ENGINEER.



PENINSULA RESTORATION GROUP

DRWN: DJB	DATE: 03/04/09
CHKD: DF	DATE: 03/04/09
APPD: AEB	DATE: 03/04/09
SCALE:	AS SHOWN



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

DIAMOND CONSOLIDATION AREA  
CROSS SECTIONS

PROJECT NO: 09-803/04  
DS-CA-02

△				REFERENCE:
△	12/22/09	ISSUED FOR BID	AEB	
REV #	DATE	DESCRIPTION	APPD	

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

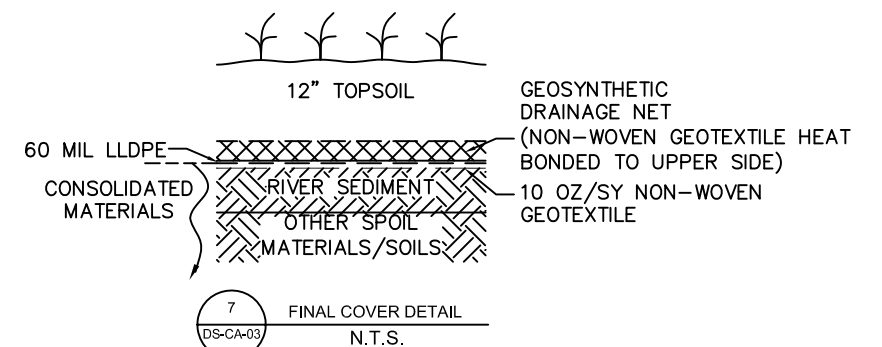
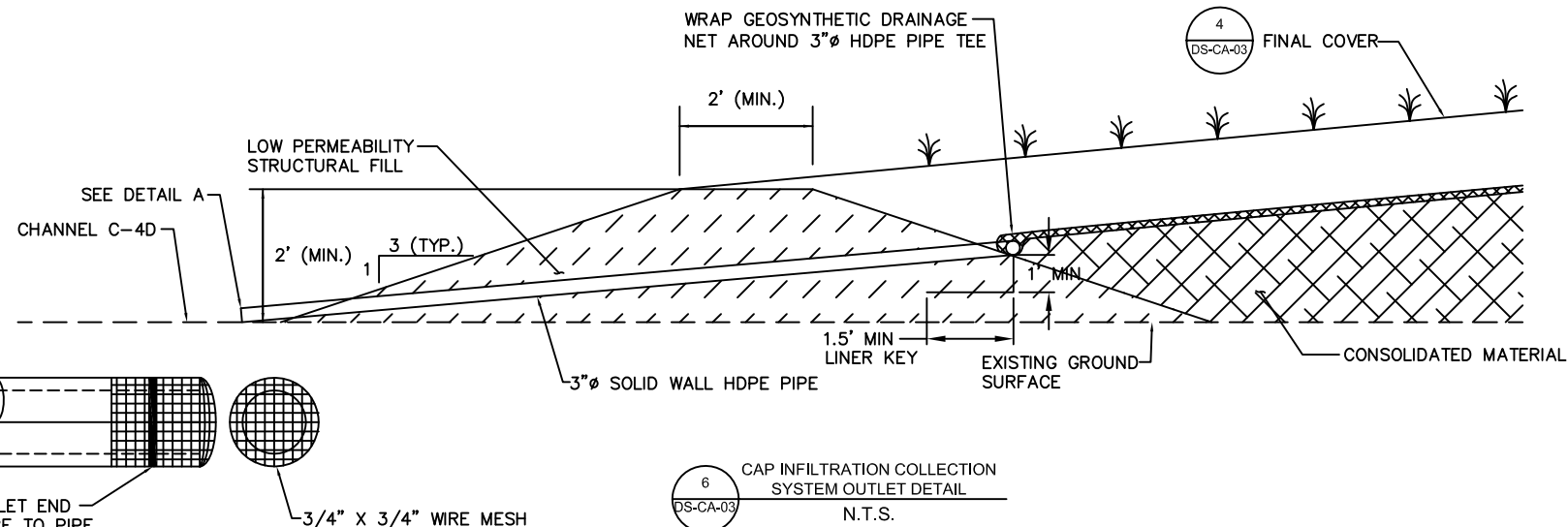
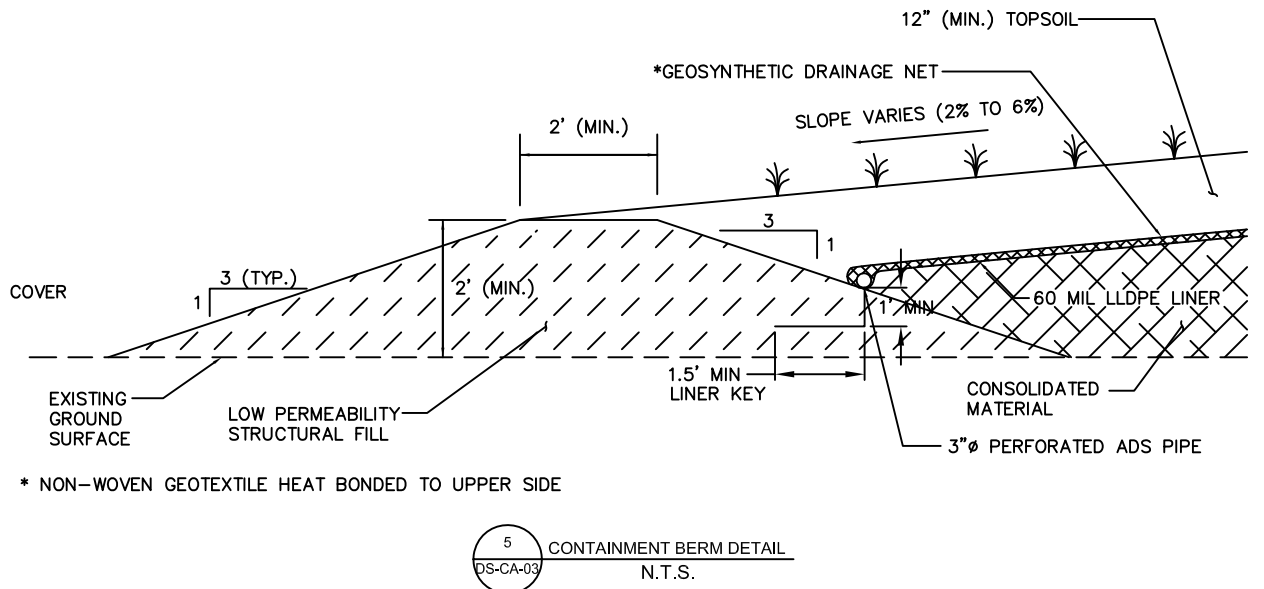
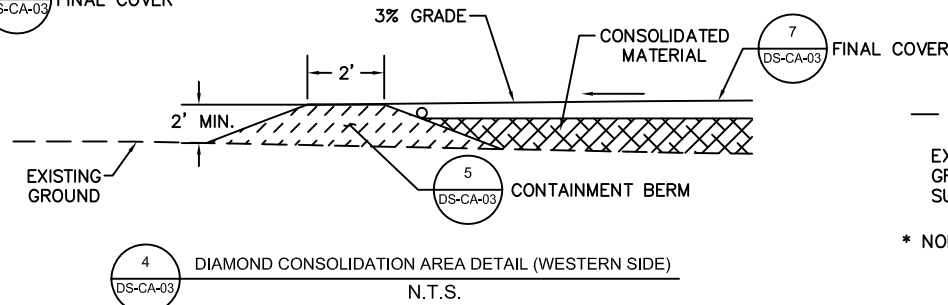
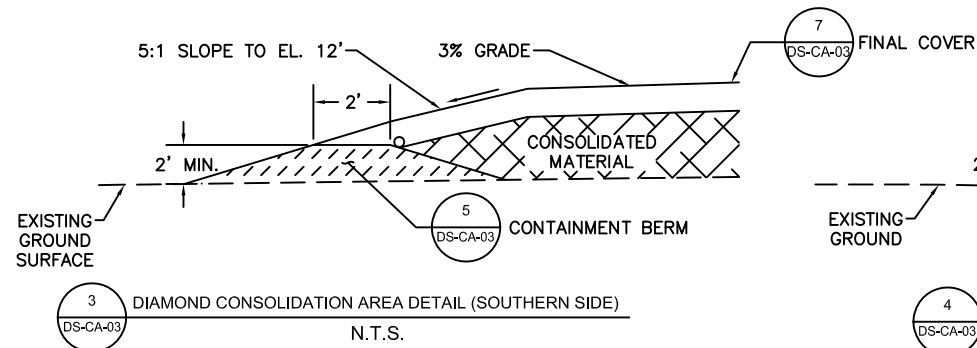
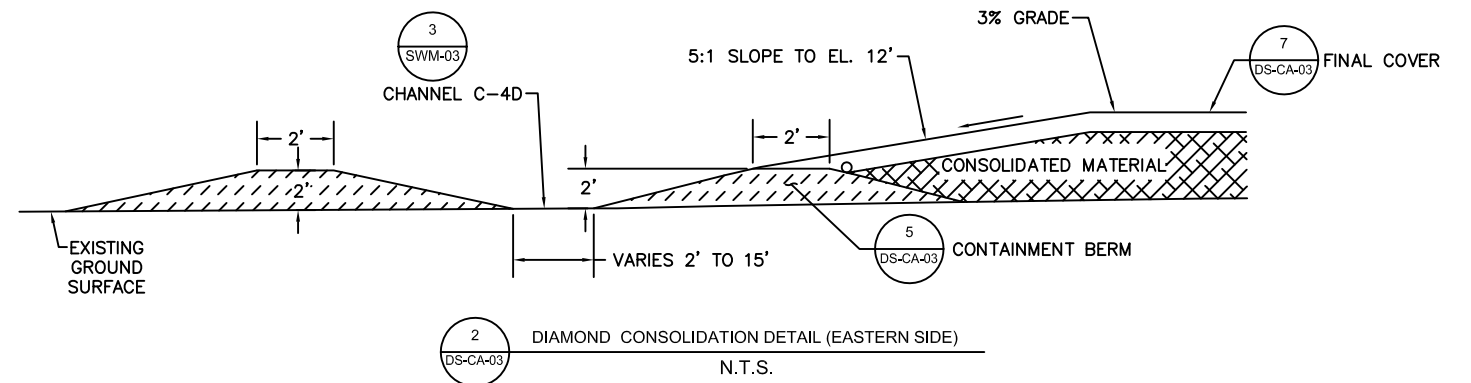
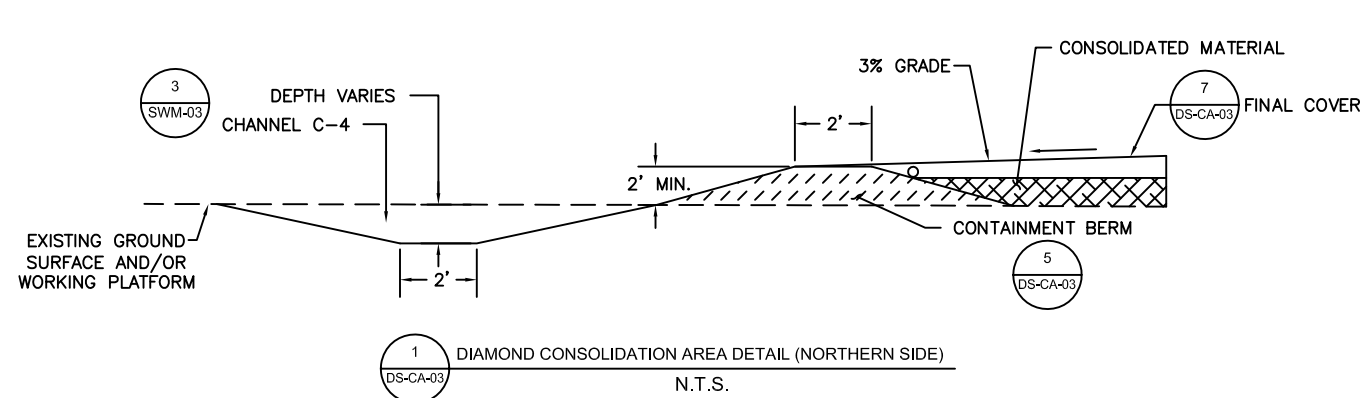
PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400



y:\00civil\leanny\tra design\production drawings\civil engineering design drawings\ds-ca-03 diamond consolidation area details.dwg Last Saved By: Tolebagovich 12/21/2009 5:16 PM Plotted By: Shelly Comer 2/1/2010 10:58 AM Scale: 1:2



CRIMP AROUND OUTLET END OF PIPE AND SECURE TO PIPE WITH GALVANIZED STEEL WIRE OR OTHER ACCEPTABLE FASTENING METHODS.

DETAIL A  
WIRE MESH SHIELD  
N.T.S.

3/4" X 3/4" WIRE MESH SCREENING, 17 GAGE THICK MINIMUM, GALVANIZED AFTER WEAVING

6  
DS-CA-03  
CAP INFILTRATION COLLECTION SYSTEM OUTLET DETAIL  
N.T.S.

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

SIGNATURE DATE

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: DJB DATE: 07/06/09  
CHKD: DF DATE: 07/06/09  
APPD: AEB DATE: 07/06/09  
SCALE: NOT TO SCALE

**KEY** ENVIRONMENTAL  
INCORPORATED

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

DIAMOND CONSOLIDATION  
AREA DETAILS

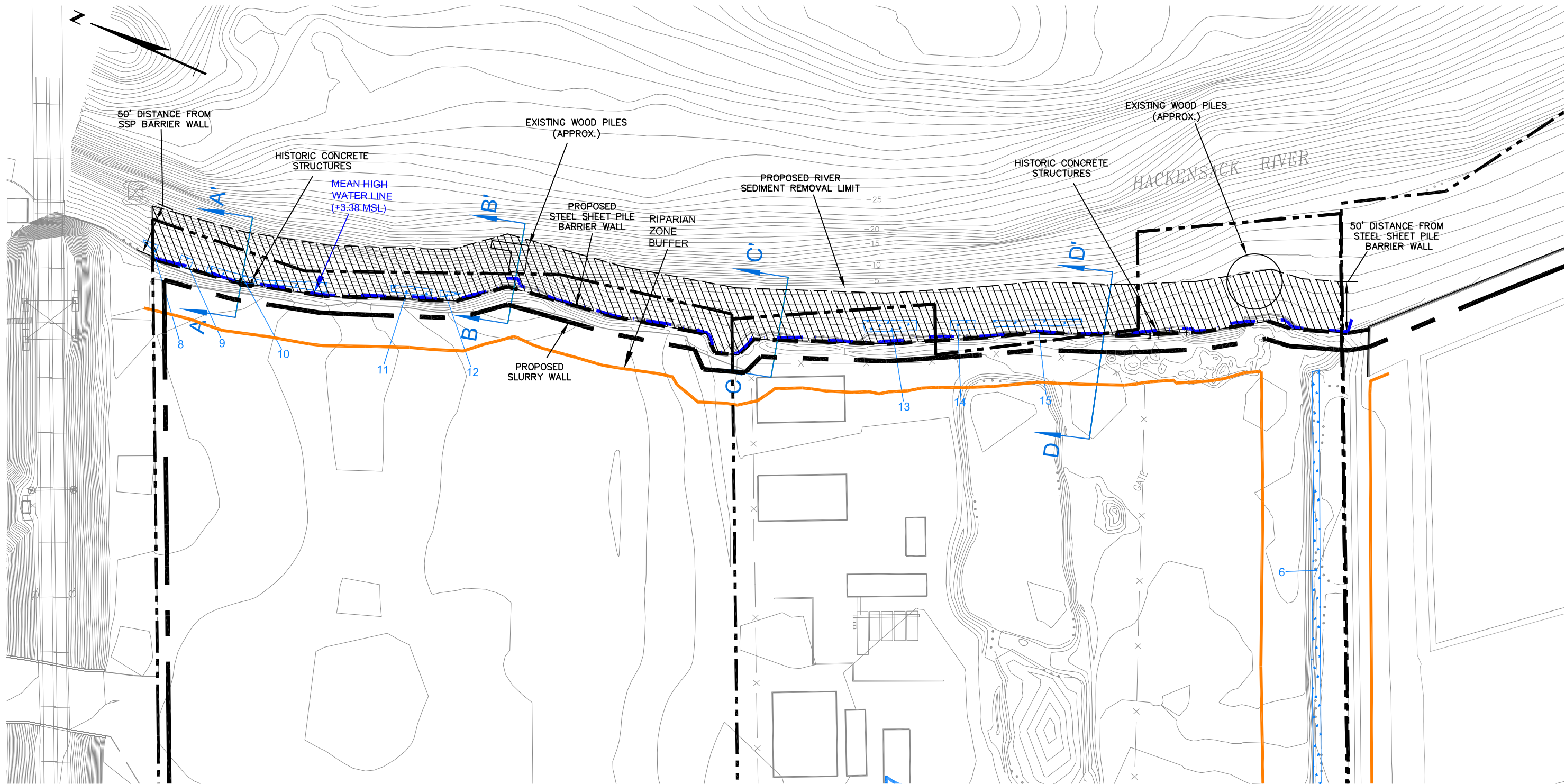
PROJECT NO: 09-803/804  
DS-CA-03

REV #	DATE	DESCRIPTION	APPD
1	12/22/09	ISSUED FOR BID	AEB

REFERENCE:

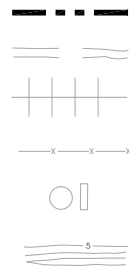


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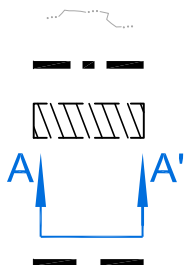


NOTES:

1. TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
2. SIGNIFICANT PORTIONS OF THE SITE ARE LOCATED WITHIN THE 100-YEAR FLOOD PLAIN (SEE FEMA MAPS IN LURP APPLICATION FOR LOCATION OF FLOOD HAZARD ELEVATION). THE FLOOD HAZARD ELEVATION IS + 9FT MSL.



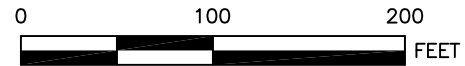
PROPERTY BOUNDARY  
EXISTING ACCESS ROAD  
EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)  
EXISTING FENCE  
EXISTING STRUCTURES  
EXISTING GROUND SURFACE ELEVATION CONTOURS



LEGEND

EXISTING STREAM, POND AND RIVER BANK  
PROPOSED SLURRY WALL LOCATION  
REMOVAL AREA OF RIVER SEDIMENTS  
CROSS SECTION (SEE SHEET SM-02)  
PROPOSED STEEL SHEET PILE WALL LOCATION

3.38 ——— RIPARIAN ZONE BUFFER (50 FEET LANDWARD FROM MHW)  
3.38 ——— MEAN HIGH WATER (MHW)  
[Symbol] EXISTING WETLANDS



△	01/28/10	ADDED BATHYMETRIC CONTOURS	AEB
△	12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION	APPD

REFERENCE:

1. EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
2. PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, PC.
3. EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE

DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: SCC DATE: 03/24/09  
CHKD: M.J.H DATE: 03/24/09  
APPD: DF DATE: 03/24/09  
SCALE: AS SHOWN



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

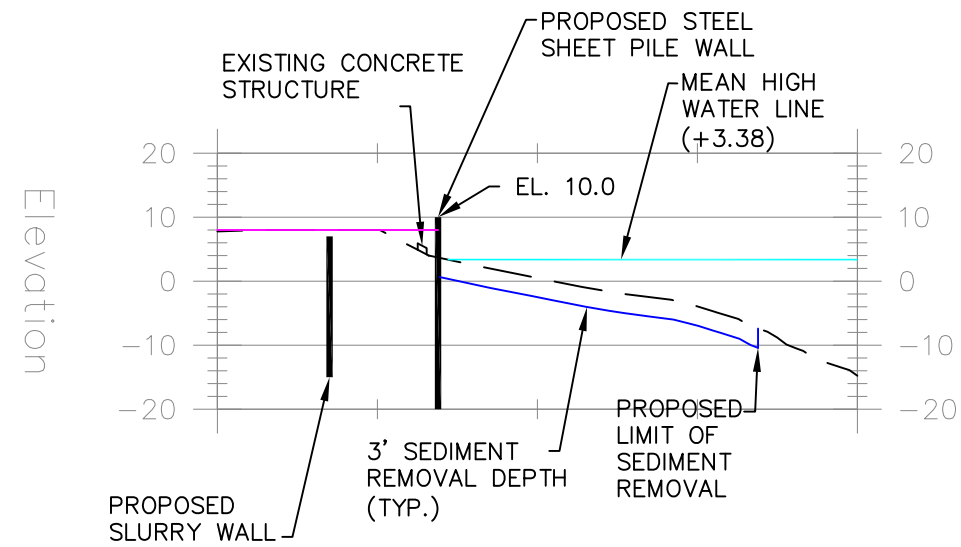
SEDIMENT MANAGEMENT PLAN

PROJECT NO: 09-803/804  
SM-01

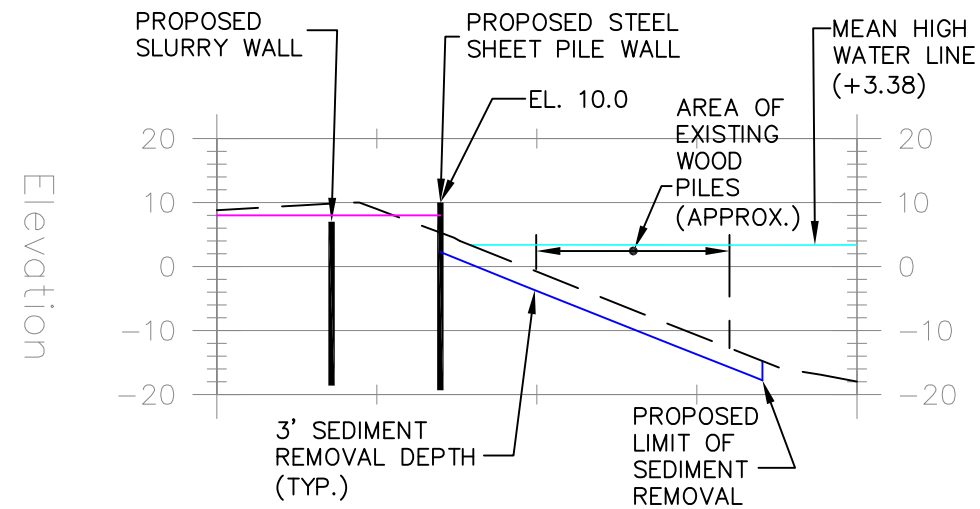


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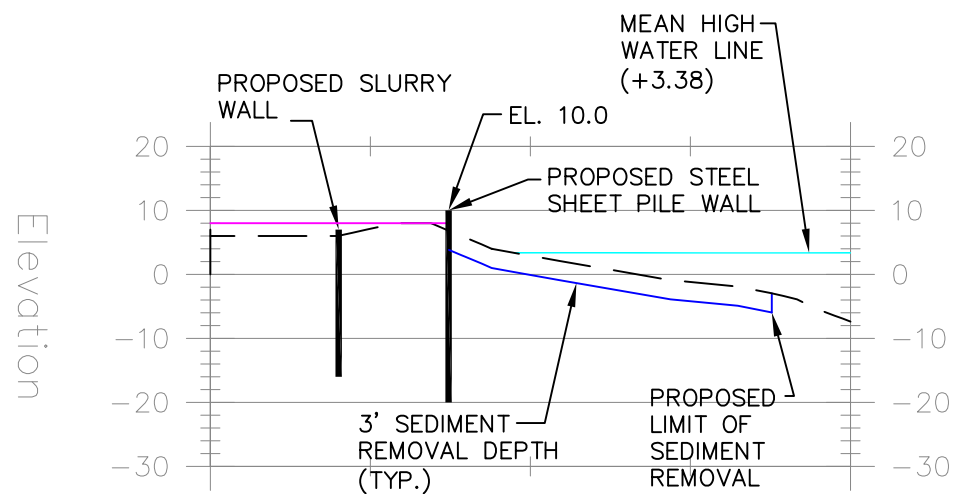
## CROSS SECTION A-A'



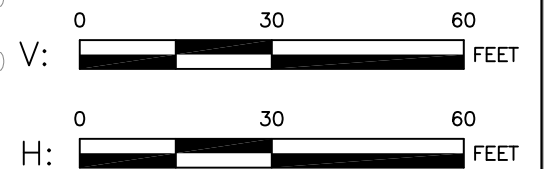
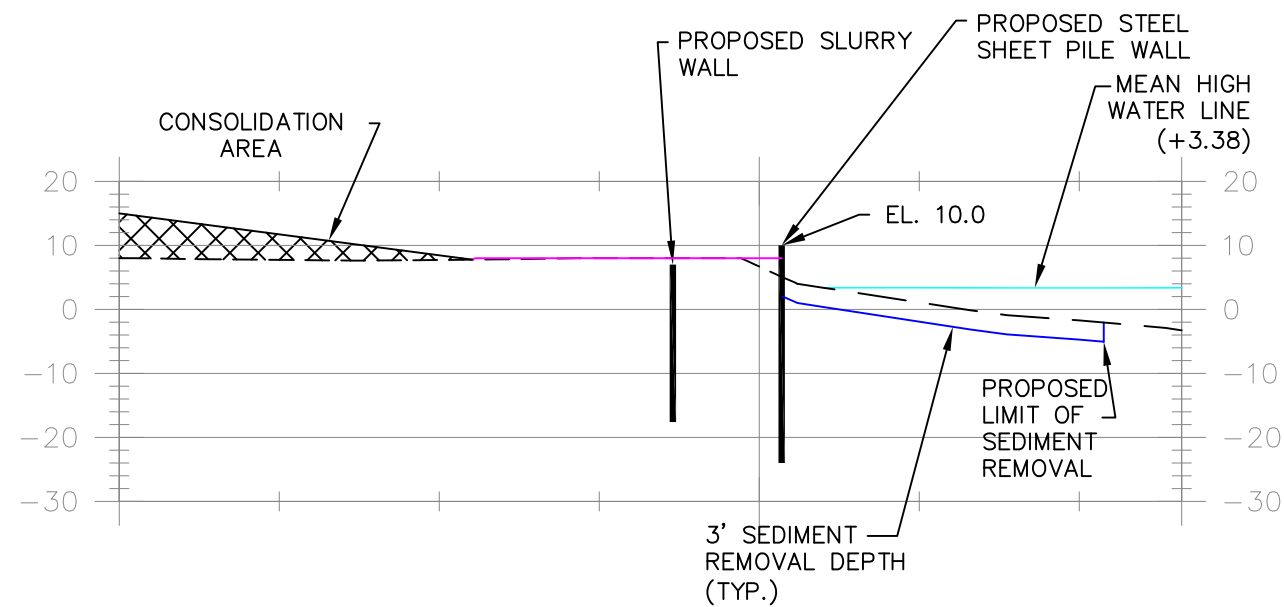
## CROSS SECTION B-B'



## CROSS SECTION C-C'



## CROSS SECTION D-D'



### LEGEND

- PROPOSED LIMIT OF RIVER SEDIMENT EXCAVATION
- EXISTING GROUND SURFACE
- TOP OF WORKING PLATFORM FOR SLURRY WALL CONSTRUCTION (EL. +8 MSL)
- MEAN HIGH WATER

### NOTE:

- TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).

△			
△	12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION	APPD

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: SCC DATE: 03/26/09  
CHKD: M.J.H DATE: 03/26/09  
APPD: D.F DATE: 03/26/09  
SCALE: AS SHOWN

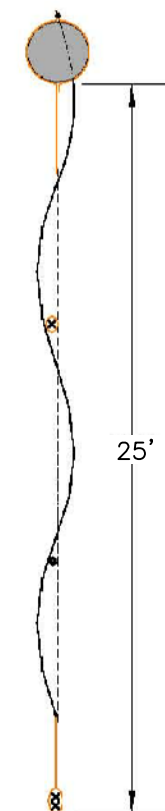
**KEY** ENVIRONMENTAL  
INCORPORATED

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

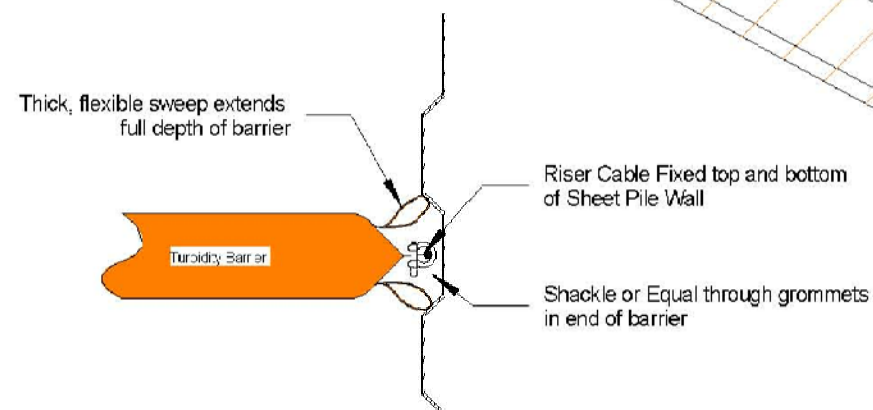
SEDIMENT MANAGEMENT  
CROSS SECTIONS

PROJECT NO: 09803/804  
SM-02

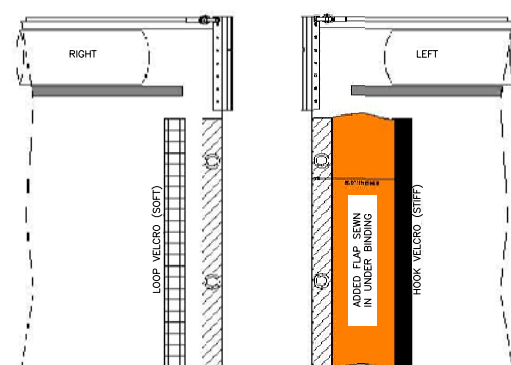




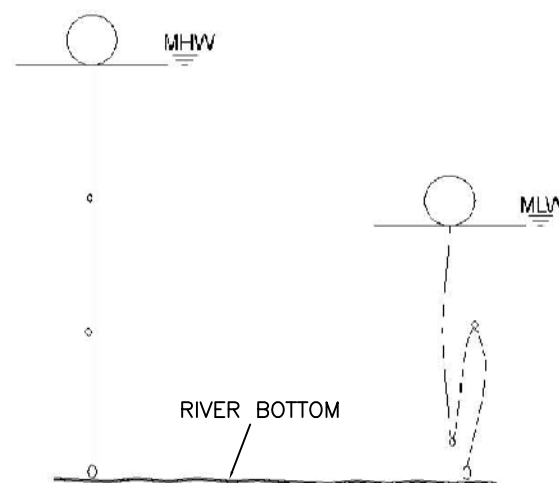
1 TURBIDITY BARRIER DETAIL  
SM-03 N.T.S.



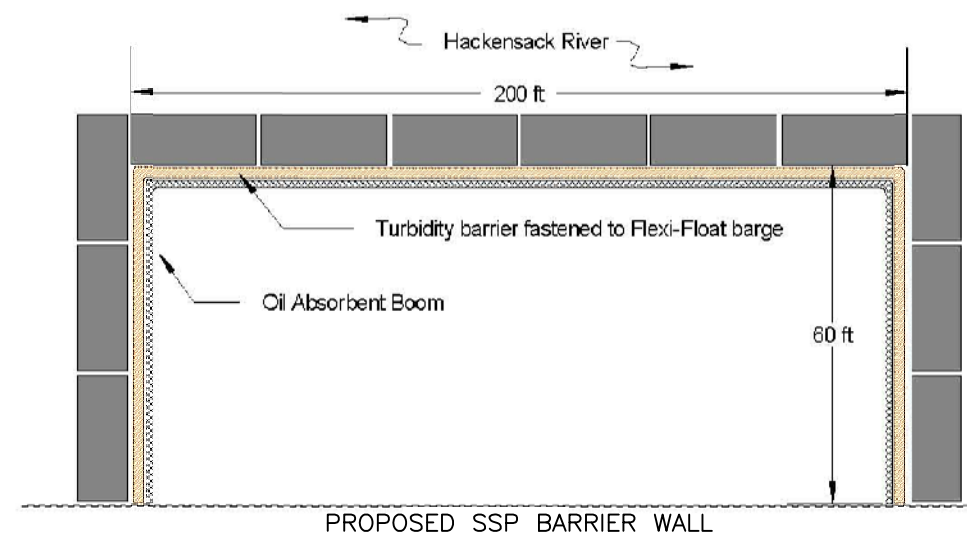
2 CABLE RISER DETAIL  
SM-03 N.T.S.



3 VELCRO FLAP CLOSURE  
SM-03 N.T.S.



4 SELF ADJUSTING SKIRT  
SM-03 N.T.S.



5 FLEXI FLOAT BARGE DEPLOYMENT  
SM-03 N.T.S.

1. DETAILS PROVIDED BY BROCKTON EQUIPMENT/SPILLDAM INC. (DISTRIBUTED BY IWT/CARGO-GUARD, INC. AT (609) 971-8810)
2. TURBIDITY BARRIER SHALL MEET REQUIREMENTS PROVIDED HEREIN, AND IS SUBJECT TO APPROVAL BY THE ENGINEER.
3. CONTRACTOR SHALL PROVIDE A SHOP DRAWING SUBMITTAL INCLUDING A NARRATIVE FULLY DESCRIBING THE PROPOSED

△			
△			
△	12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION	APPD

REFERENCE:

ISSUE DATE:
-------------

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES

24GA27961400

PENINSULA RESTORATION GROUP

DRWN: SCC	DATE: 05/13/09
CHKD: BTS	DATE: 05/13/09
APPD: AEB	DATE: 05/13/09
SCALE: NOT TO SCALE	

**KEY ENVIRONMENTAL  
INCORPORATED**

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

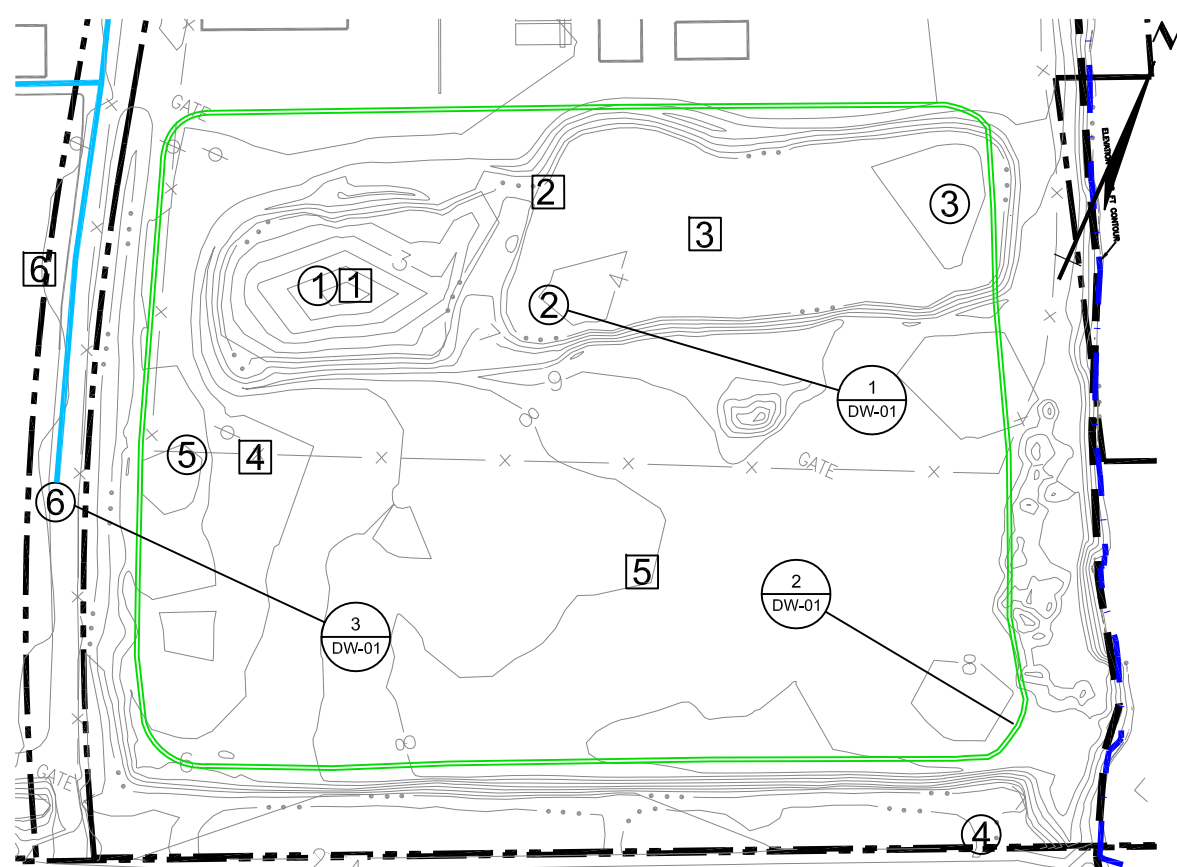
TURBIDITY BARRIER DETAIL

PROJECT NO: 09-803/804
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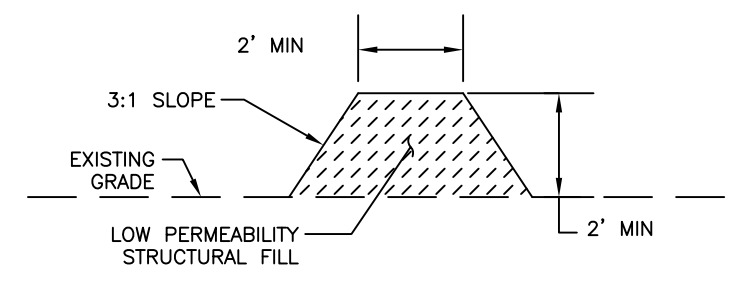
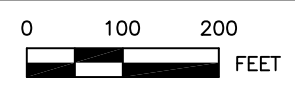
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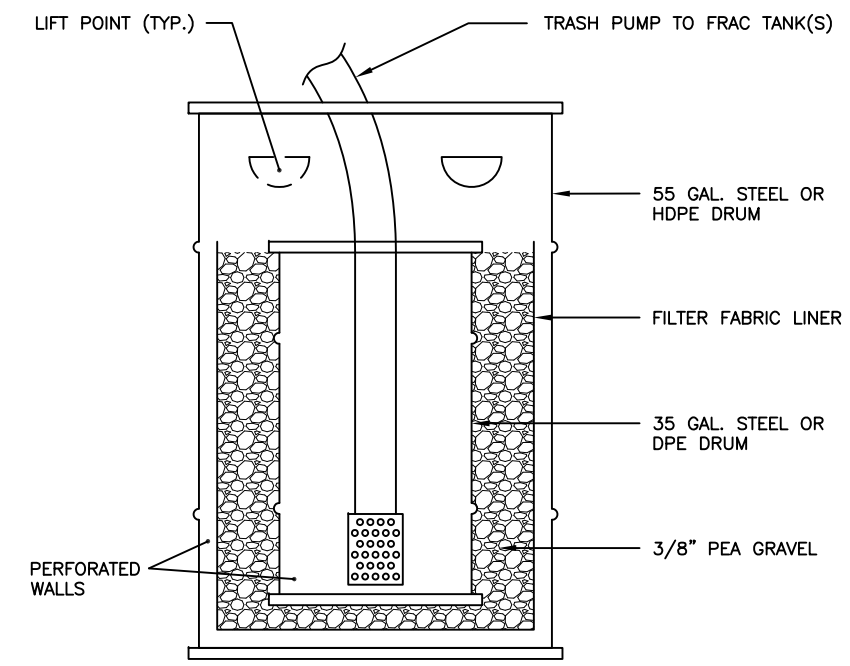
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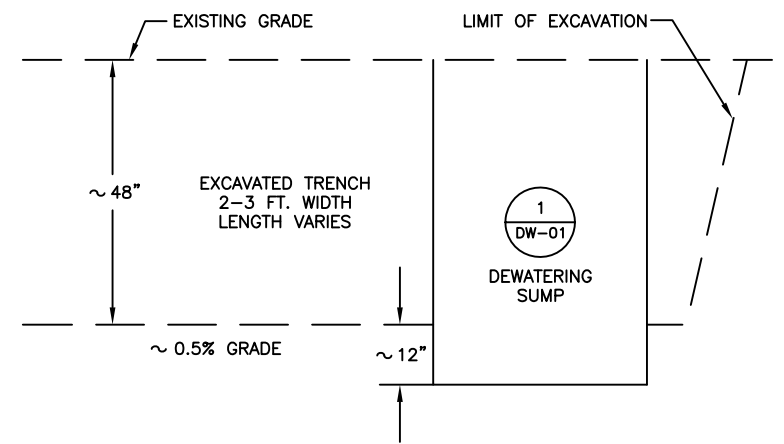
DEWATERING OPERATION PLAN VIEW



CONTAINMENT BERM TYP. 2  
N.T.S. DW-01



DEWATERING SUMP DETAIL TYP. 1  
N.T.S. DW-01



TRENCH & SUMP DETAIL TYP. 3  
N.T.S. DW-01

LEGEND

- CONTAINMENT BERM
- HYDRAULIC CONTROL SYSTEM LINES
- 4 REPRESENTATIVE SUMP LOCATION (SEE CONSTRUCTION SEQUENCE)
- 4 MATERIAL MANAGEMENT LOCATION (SEE CONSTRUCTION SEQUENCE)

NOTES:

1. WATER TO BE TREATED IN TEMPORARY NJPDES--PERMITTED TREATMENT WORKS (SOLIDS, METALS, ORGANICS REMOVAL).

CANDIDATE CONSTRUCTION/DEWATERING SEQUENCE FOR SCCC SITE  
(CONFORMING METHODS FOR DIAMOND SITE INCLUDE ITEMS 9 THROUGH 22)

1. INSTALL DEWATERING SUMPS PER DETAIL AT LOCATIONS ①②③ TO FACILITATE DEWATERING OF WEST AND EAST LAGOONS.
2. PUMP WATER TO FRAC TANK(S) FOR SUBSEQUENT TREATMENT IN NJPDES--PERMITTED AND TREATMENT WORK AUTHORIZATION--APPROVED PACKAGE PLANT.
3. BLOCK SOUTH DITCH INFLOW AS NECESSARY. DEWATER SOUTH DITCH WITH DEWATERING SUMP ④ AND PUMP SOUTH DITCH WATER TO FRAC TANK(S) AS ABOVE.
4. COMMENCE CONSOLIDATION OF SOUTH DITCH SOFT SOIL IN WEST LAGOON ①.
5. RECOVER DECANTED SOUTH DITCH SOFT SOIL WATER FROM EAST LAGOON SUMPS AS NECESSARY.
6. TREAT SUPERNATANT FROM SOUTH DITCH SOFT SOIL CONSOLIDATION AREA (WEST LAGOON) AS ABOVE.
7. COVER CONSOLIDATED SOUTH DITCH SOFT SOIL OR EMPLOY DUST CONTROL AS NECESSARY.
8. CONSTRUCT EARTHEN DAM AT LOCATION ② TO SEPARATE BACKFILLED WEST LAGOON AND EMPTY EAST LAGOON.
9. CONSTRUCT CONTAINMENT BERM AROUND CONSOLIDATION AREA PERIMETER AND COMMENCE SLURRY WALL CONSTRUCTION ON SCCC AND/OR SEABOARD SITES AND CONSOLIDATE SPOILS IN EAST LAGOON ③.
10. RECOVER SUPERNATANT FROM SLURRY WALL SPOILS IN EAST LAGOON USING SUMP AND PUMP AT LOCATION ③.
11. IF SPOILS VOLUME EXCEEDS AVAILABLE AIR SPACE IN EAST LAGOON, RECOVER SUPERNATANT FROM LOW SPOT INSIDE PERIMETER BERM ④ AND ⑤ AND STORE IN FRAC TANK(S).
12. TREAT SUPERNATANT FROM SLURRY WALL SPOIL CONSOLIDATION AREA (EAST LAGOON AND SCCC CONSOLIDATION AREA) AS ABOVE.
13. GRADE SPOILS IN CONSOLIDATION AREA AS NECESSARY IN VIEW OF ANTICIPATED FINAL GRADES.
14. COVER CONSOLIDATED SLURRY SPOILS OR EMPLOY DUST CONTROL AS NECESSARY.
15. COMMENCE EXCAVATION OF RIVER SEDIMENTS FROM SCCC RIVER FRONTAGE (AND PORTION OF DIAMOND RIVER FRONTAGE) AND CONVEY TO SCCC CONSOLIDATION AREA.
16. COLLECT SUPERNATANT FROM RIVER SEDIMENT USING PUMP AND SUMP AT LOCATION ⑤. STORE IN FRAC TANKS.
17. TREAT SUPERNATANT FROM RIVER SEDIMENT CONSOLIDATION AREA ⑤ (SCCC CONSOLIDATION AREA) AS ABOVE.
18. GRADE CONSOLIDATED RIVER SEDIMENTS TO ACCOMMODATE FINAL GRADE.
19. COVER CONSOLIDATED RIVER SEDIMENTS OR EMPLOY DUST CONTROLS AS NECESSARY.
20. COMPLETE EXCAVATION OF HYDRAULIC CONTROL AND DNAPL RECOVERY SYSTEM TRENCHES ⑥ AND DEWATER USING SUMP AND PUMP ⑥ PER DETAIL.
21. CONSOLIDATE EXCESS TRENCH SPOILS IN CONSOLIDATION AREA (SCCC OR DIAMOND).
22. MANAGE WATER IN TRENCHES AND CONVEY EXCESS WATER FROM TRENCH DEWATERING OPERATIONS TO FRAC TANK(S) AS NECESSARY AND TREAT AS ABOVE.

△			
△	12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION	APPD

REFERENCE:	
1. EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).	
2. PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, PC.	

ISSUE DATE:
KEY ENVIRONMENTAL, INC. 200 THIRD AVENUE CARNEGIE, PA 15106

ALAN E. BRIGGS PROFESSIONAL ENGINEER N.J. LICENSE NUMBER: 24GE03878500	
SIGNATURE	DATE

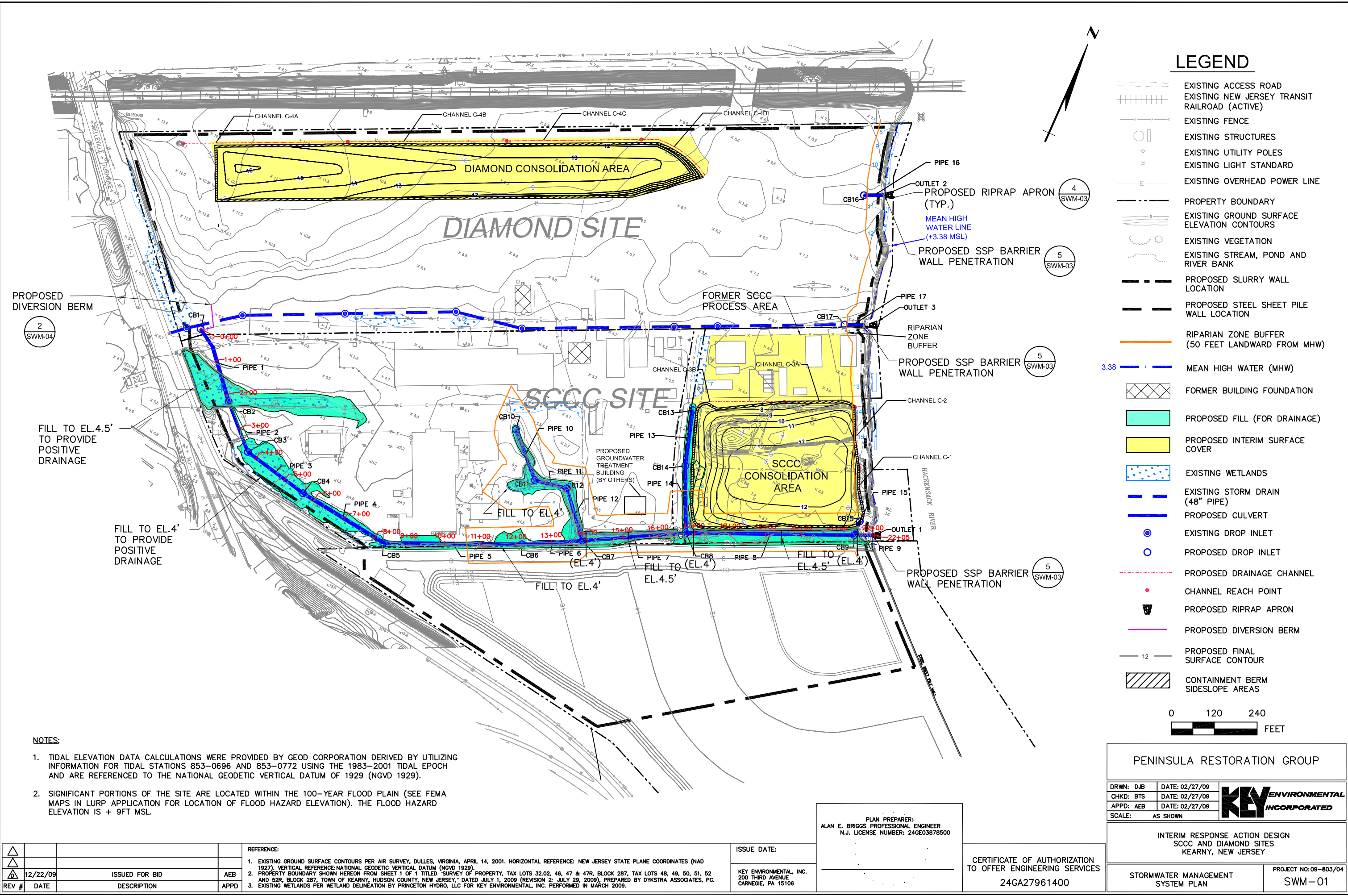
STATE OF NEW JERSEY CERTIFICATE OF AUTHORIZATION TO OFFER ENGINEERING SERVICES 24GA27961400
--

PENINSULA RESTORATION GROUP	
DRWN: WAA	DATE: 04/20/09
CHKD: RJH	DATE: 04/20/09
APPD: AEB	DATE: 04/20/09
SCALE:	AS SHOWN
INTERIM RESPONSE ACTION DESIGN SCCC AND DIAMOND SITES KEARNY, NEW JERSEY	
DEWATERING OPERATIONS PLAN	PROJECT NO: 09-803/804 DW-01





Y:\00civil\kennedy\tra design\production drawings\swm-01 stormwater management system plan.dwg Last Saved By: Scomer 12/21/2009 6:56 PM Plotted By: Shelly Conner 2/1/2010 12:49 PM Scale: 1:2



LEGEND

- EXISTING ACCESS ROAD
- EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
- EXISTING FENCE
- EXISTING STRUCTURES
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE
- PROPERTY BOUNDARY
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING VEGETATION
- EXISTING STREAM, POND AND RIVER BANK
- PROPOSED SLURRY WALL LOCATION
- PROPOSED STEEL SHEET PILE WALL LOCATION
- RIPARIAN ZONE BUFFER (50 FEET LANDWARD FROM MHW)
- MEAN HIGH WATER (MHW)
- FORMER BUILDING FOUNDATION
- PROPOSED FILL (FOR DRAINAGE)
- PROPOSED INTERIM SURFACE COVER
- EXISTING WETLANDS
- EXISTING STORM DRAIN (48" PIPE)
- PROPOSED CULVERT
- EXISTING DROP INLET
- PROPOSED DROP INLET
- PROPOSED DRAINAGE CHANNEL
- CHANNEL REACH POINT
- PROPOSED RIPRAP APRON
- PROPOSED DIVERSION BERM
- PROPOSED FINAL SURFACE CONTOUR
- CONTAINMENT BERM SIDESLOPE AREAS

NOTES:

- TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
- SIGNIFICANT PORTIONS OF THE SITE ARE LOCATED WITHIN THE 100-YEAR FLOOD PLAIN (SEE FEMA MAPS IN LURP APPLICATION FOR LOCATION OF FLOOD HAZARD ELEVATION). THE FLOOD HAZARD ELEVATION IS + 9FT MSL.

REFERENCE:

- EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
- PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, PC.
- EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24603878500

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: DJB	DATE: 02/27/09
CHKD: BTS	DATE: 02/27/09
APPD: AEB	DATE: 02/27/09
SCALE: AS SHOWN	



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

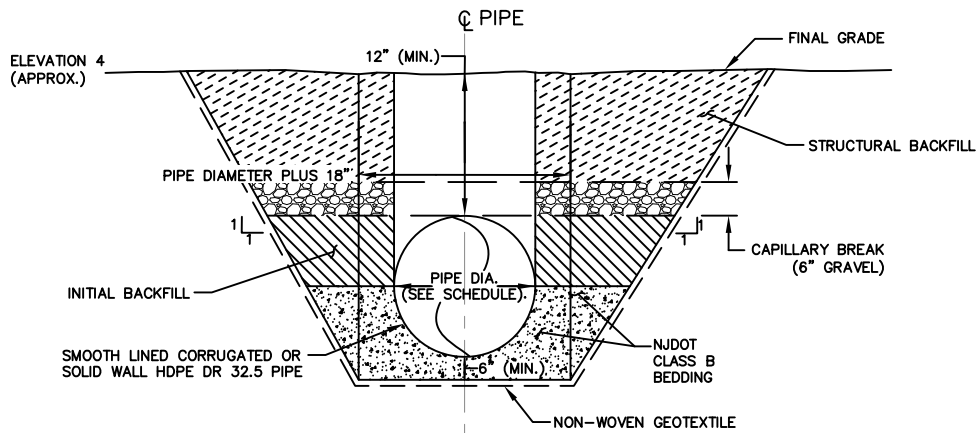
STORMWATER MANAGEMENT  
SYSTEM PLAN

PROJECT NO: 09-803/04  
SWM-01

REV #	DATE	DESCRIPTION	APPD
1	12/22/09	ISSUED FOR BID	AEB



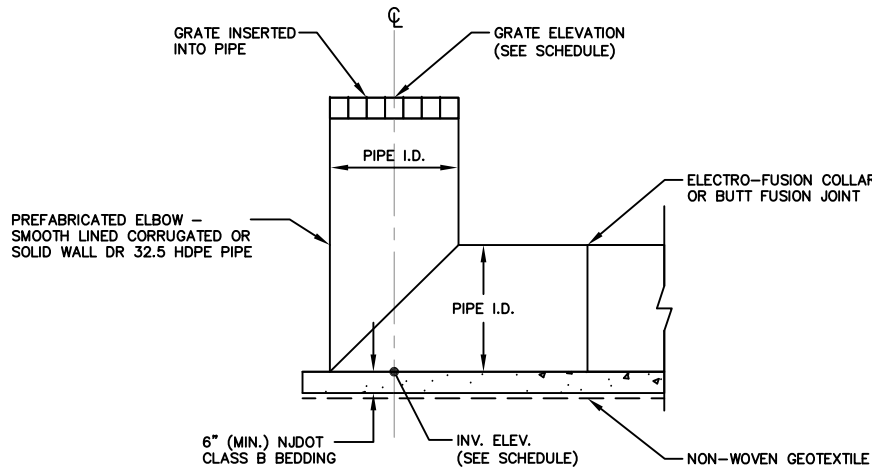
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#### TRENCH AND BACKFILL NOTES

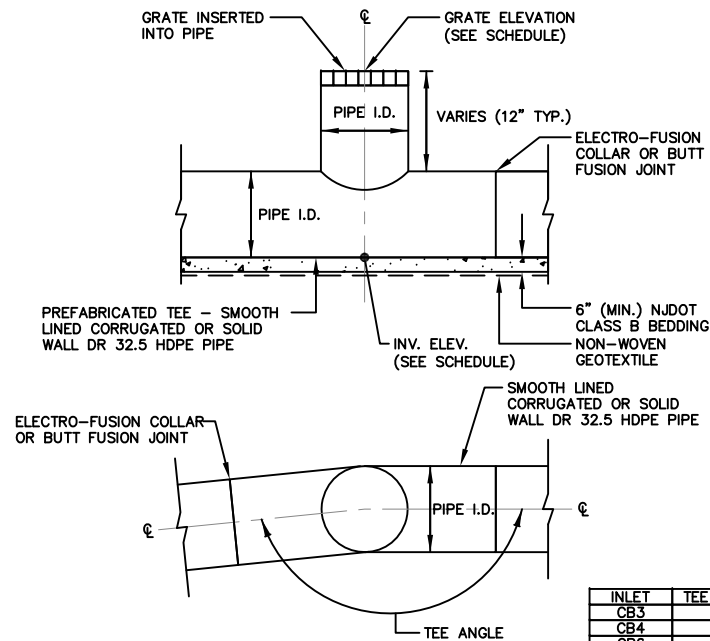
1. TRENCHING AND BACKFILL SHALL BE IN ACCORDANCE WITH NEW JERSEY DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION. EXCAVATED MATERIALS SHALL BE MANAGED IN ACCORDANCE WITH IRAW/NJDEP REQUIREMENTS.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE, O.D., PLUS 18 INCHES.
3. GROUNDWATER ENCOUNTERED DURING EXCAVATION SHALL BE MANAGED IN ACCORDANCE WITH FINAL IRAW/NJDEP REQUIREMENTS.

1  
SWM-02 PIPE BEDDING AND BACKFILL DETAIL  
N.T.S.



NOTES:  
REFER TO DETAIL 1 ON SWM-03 FOR REINFORCEMENT REQUIRED FOR CB13

2  
SWM-02 PIPE ELBOW CATCH BASIN DETAIL  
N.T.S.



INLET	TEE ANGLE
CB3	148
CB4	175
CB6	175
CB11	124
CB14	175

3  
SWM-02 HDPE TEE CATCH BASIN DETAIL  
N.T.S.

NOTES: REFER TO DETAIL 1 ON SWM-03 FOR REINFORCEMENT REQUIRED FOR CB14

INLET SCHEDULE						
NUMBER	STRUCTURE TYPE	DETAIL/SHEET #	GRATE ELEV.	INV. IN ELEV.	INV. IN ELEV.	INV. OUT ELEV.
CB1	ELBOW	2 SWM-02	5.5	-	-	0.35 (TO CB2)
CB2	5' DIAM. MANHOLE	4 SWM-02	4	0.15 (FROM CB1)	-	-0.35 (TO CB3)
CB3	148° TEE	3 SWM-02	4	-0.45 (FROM CB2)	-	-0.45 (TO CB4)
CB4	175° TEE	3 SWM-02	4	-0.60 (FROM CB3)	-	-0.60 (TO CB5)
CB5	5' DIAM. MANHOLE	4 SWM-02	4	-0.75 (FROM CB4)	-	-0.75 (TO CB6)
CB6	175° TEE	3 SWM-02	4	-0.95 (FROM CB5)	-	-0.95 (TO CB7)
CB7	5' DIAM. MANHOLE	4 SWM-02	4	-1.10 (FROM CB6)	-1.10 (FROM CB12)	-1.10 (TO CB8)
CB8	5' DIAM. MANHOLE	4 SWM-02	4	-1.35 (FROM CB7)	-0.85 (FROM CB14)	-1.35 (TO CB9)
CB9	5' DIAM. MANHOLE	4 SWM-02	4	-1.75 (FROM CB8)	0.05 (FROM CB15)	-1.75 (TO OUTLET 1)
CB10	ELBOW	2 SWM-02	4	-	-	-0.50 (TO CB11)
CB11	124° TEE	3 SWM-02	4	-0.70 (FROM CB10)	-	-0.70 (TO CB12)
CB12	5' DIAM. MANHOLE	4 SWM-02	4	-0.75 (FROM CB11)	-	-1.00 (TO CB7)
CB13	ELBOW	2 SWM-02	4	-	-	-0.55 (TO CB14)
CB14	175° TEE	3 SWM-02	4	-0.70 (FROM CB13)	-	-0.70 (TO CB8)
CB15	ELBOW	2 SWM-02	8	-	-	1.00 (TO CB9)
OUTLET 1	OUTLET		NA	-	-	-1.80 (FROM CB9)
CB16	5' DIAM. MANHOLE	4 SWM-02	4.8	-	-	1.10 (TO OUTLET 2)
OUTLET 2	OUTLET		NA	-	-	0.00 (FROM CB16)
CB17	RECTANGULAR MANHOLE	4 SWM-04	4.7	-3.10 (FROM MH7)	-	-3.10 (TO OUTLET 3)
OUTLET 3	OUTLET (EXISTING)		NA	-	-	-3.23 (FROM CB17)

#### NOTES:

1. ALL HDPE PIPE TO BE SMOOTH LINED CORRUGATED OR SOLID WALL HDPE DR 32.5 PIPE UNLESS OTHERWISE SPECIFIED.
2. PIPE FROM CB9 TO OUTLET (PIPE 9) SHALL BE 42 INCH O.D. SOLID WALL DR 32.5 HDPE PIPE.
3. PIPE FROM CB16 TO OUTLET 2 (PIPE 16) SHALL BE 28" O.D. SOLID WALL DR 32.5 PIPE.
4. PIPE FROM CB17 TO OUTLET 3 (PIPE 17) SHALL BE 54" O.D. SOLID WALL DR 32.5 PIPE.

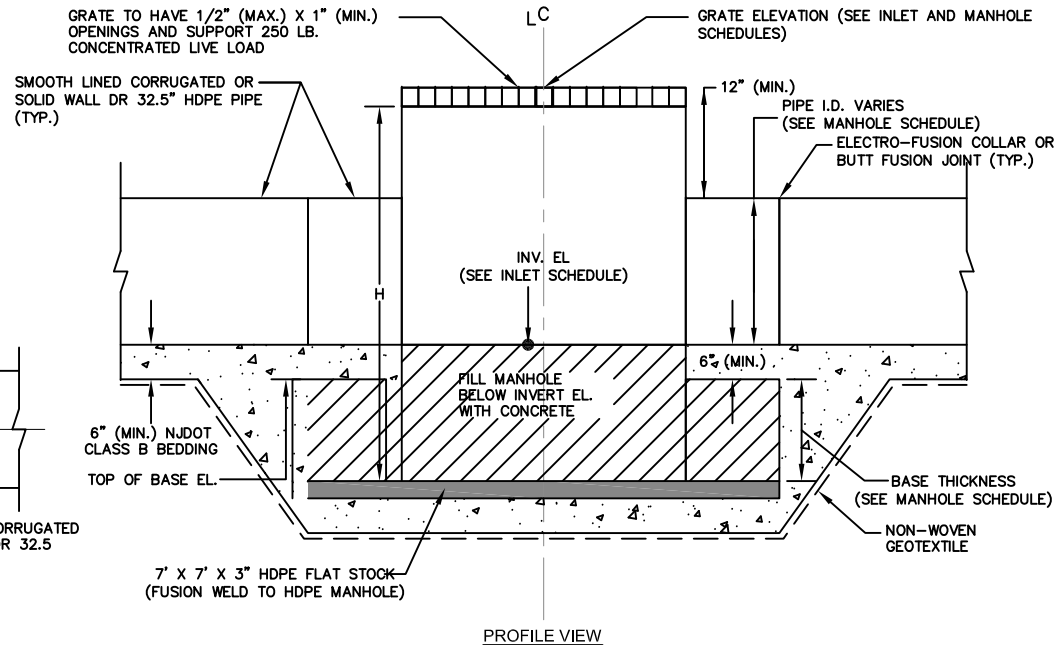
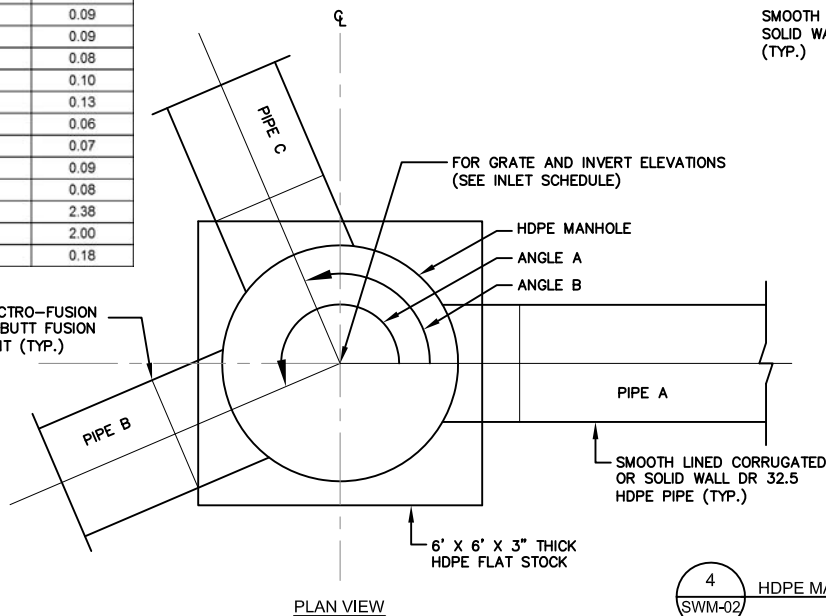
#### REFERENCE:

REV #	DATE	DESCRIPTION	APPD
1	12/22/09	ISSUED FOR BID	AEB

ISSUE DATE:	KEY ENVIRONMENTAL, INC. 200 THIRD AVENUE CARNEGIE, PA 15106
ISSUE DATE:	

PLAN PREPARER:	ALAN E. BRIGGS PROFESSIONAL ENGINEER N.J. LICENSE NUMBER: 24GE03878500
SIGNATURE:	
DATE:	

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400



MANHOLE SCHEDULE									
MANHOLE	PIPE A I.D.	PIPE B I.D.	PIPE C I.D.	ANGLE A	ANGLE B	GRATE ELEV.	TOP OF BASE ELEV.	BASE THICKNESS (FT.)	HEIGHT OF HDPE PIPE, H (FT.)
CB2	30"	24"	NA	175	NA	4.0	-0.85	1.5	6.35
CB5	36"	30"	NA	151	NA	4.0	-1.25	1.5	6.75
CB7	36"	36"	36"	180	102	4.0	-1.60	1.5	7.10
CB8	36"	36"	30"	185	90	4.0	-1.85	2.0	7.85
CB9	39.3"	36"	18"	180	60	4.0	-2.25	2.0	8.25
CB12	36"	30"	NA	120	NA	4.0	-1.50	1.5	7.00
CB16	26.2"	NA	NA	NA	NA	4.8	-0.60	1.0	5.20

#### PENINSULA RESTORATION GROUP

DRWN: M.J.H.	DATE: 03/26/09
CHKD: G.W.B.	DATE: 03/26/09
APPD: A.E.B.	DATE: 03/26/09
SCALE:	NOT TO SCALE



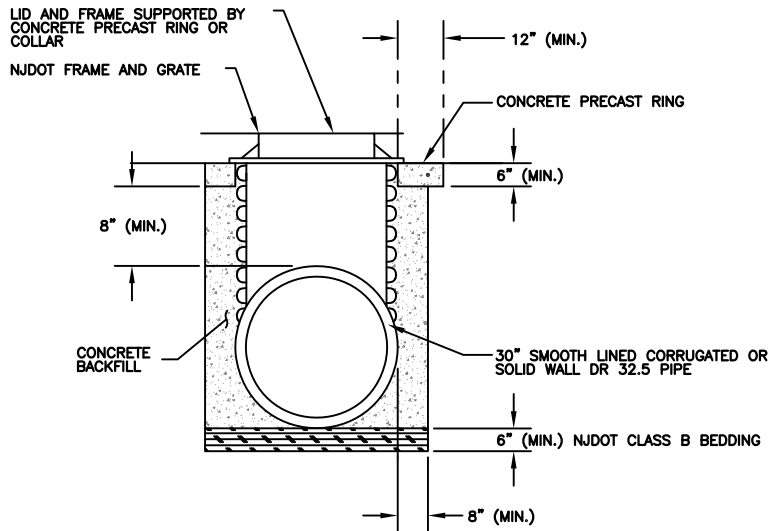
INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

STORMWATER MANAGEMENT  
SYSTEM DETAILS

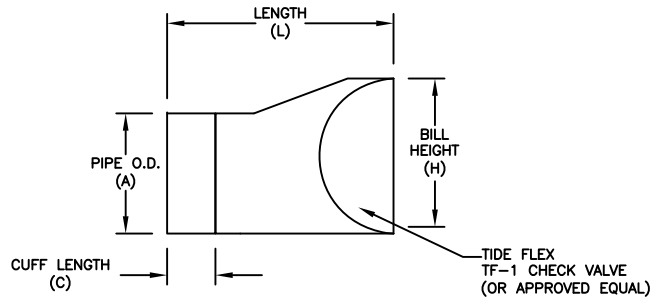
PROJECT NO: 09-803/804  
SWM-02



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1 INLET REINFORCEMENT DETAIL (CB13 AND CB14)  
N.T.S.

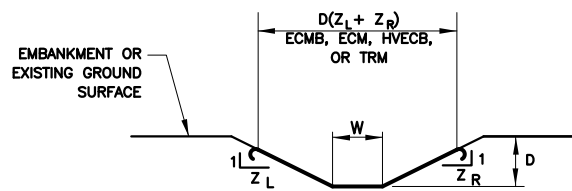


CHECK VALVE SCHEDULE				
OUTLET NO.	A (IN.)	L* (IN.)	H* (IN.)	C (IN.)
1	42	59.5	70.5	10
2	28	52.2	50.8	8.5
3	54	75.9	93	11.5
001	4.5	14.0	8	2

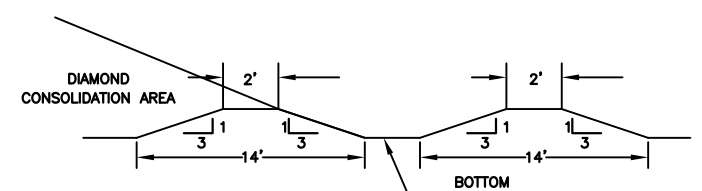
\* - APPROXIMATE

NOTE: CHECK VALVE FOR OUTLET NO. 001 SHALL BE TIDE FLEX TF-02 (OR APPROVED EQUAL)

2 CHECK VALVE DETAIL  
N.T.S.



VEGETATED CHANNEL

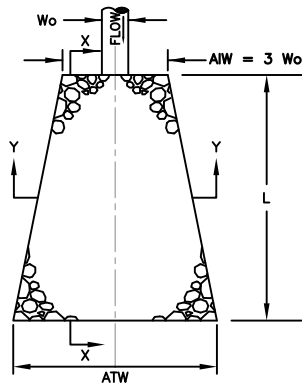


CHANNEL C-4D

CHANNEL SCHEDULE									
CHANNEL	Z <sub>L</sub>	Z <sub>R</sub>	WIDTH W (FT.)	SLOPE S <sub>0</sub> (FT./FT.)	TOTAL DEPTH D (FT.)	LINING		THICKNESS t (IN.)	LOCATION
						TEMP	PERM		
C-1	3	2	1	.007	1.1	HVECB	G	-	EAST SIDE OF SCCC SITE CONSOLIDATION AREA
C-2	3	2	1	.012	1.0	HVECB	G	-	EAST SIDE OF SCCC SITE CONSOLIDATION AREA
C-3A	3	3	1	.005	1.3	HVECB	G	-	NORTH SIDE OF SCCC SITE CONSOLIDATION AREA
C-3B	3	3	1	.008	1.5	HVECB	G	-	NORTH SIDE OF SCCC SITE CONSOLIDATION AREA
C-4A	3	3	2	.007	1.4	HVECB	G	-	NORTH SIDE OF DIAMOND SITE CONSOLIDATION AREA
C-4B	3	3	2	.004	1.9	HVECB	G	-	NORTH SIDE OF DIAMOND SITE CONSOLIDATION AREA
C-4C	3	3	2	.003	2.2	HVECB	G	-	NORTH SIDE OF DIAMOND SITE CONSOLIDATION AREA
C-4D	3	3	2 TO 15	.001	2.6 TO 0	HVECB	G	-	EAST SIDE OF DIAMOND SITE CONSOLIDATION AREA

HVECB = HIGH VELOCITY EROSION CONTROL MULCH BLANKET  
G = GRASS

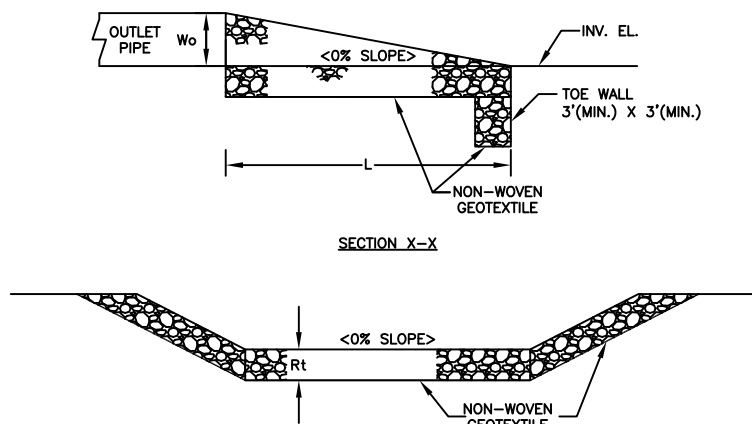
3 CHANNEL DETAIL AND SCHEDULE  
N.T.S.



PLAN VIEW

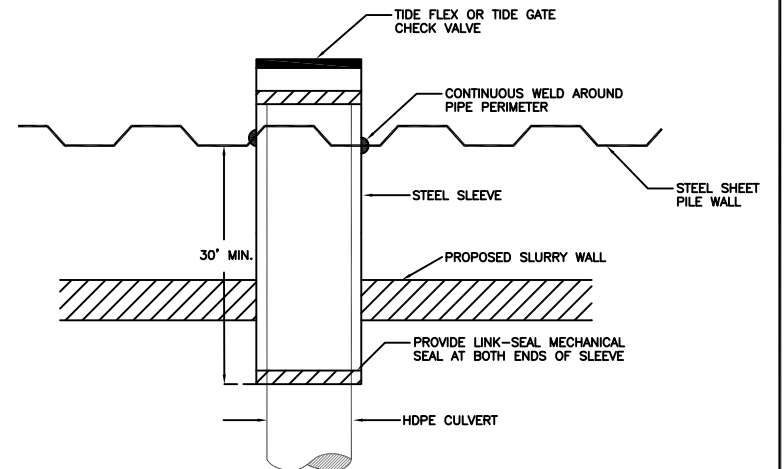
RIPRAP APRON SCHEDULE							
OUTLET NO.	PIPE DIA W <sub>o</sub> (IN)	RIPRAP			APRON		
		D50 SIZE (R IN)	THICK. Rt (IN)	LENGTH L (FT)	INITIAL WIDTH A <sub>iw</sub> (FT)	TERMINAL WIDTH A <sub>tw</sub> (FT)	INV. EL. (FT)
1	39.3	6	12	16.5	10	26.5	-1.8
2	26.2	13.2	26.4	26.4	6.5	33.0	+0.0
3	50.5	12.7	25.4	30	12	42	-3.2

4 RIPRAP APRON DETAIL AND SCHEDULE  
N.T.S.



SECTION X-X

SECTION Y-Y



5 SSP BARRIER WALL PENETRATION DETAIL  
N.T.S.

NOTE: CONTRACTOR TO PROVIDE SHOP DRAWINGS/SUBMITTAL DEPICTING MEANS OF PREFABRICATING SHEET PILE PENETRATION/STEEL SLEEVE.

REV #	DATE	DESCRIPTION	APPD
1	01/28/10	ADDED CHECK VALVE FOR OUTLET 001	AEB
2	12/22/09	ISSUED FOR BID	AEB

REFERENCE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE

DATE

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: DJB	DATE: 05/14/09
CHKD: GWB	DATE: 05/14/09
APPD: AEB	DATE: 05/14/09
SCALE:	NOT TO SCALE

**KEY** ENVIRONMENTAL  
INCORPORATED

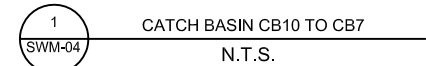
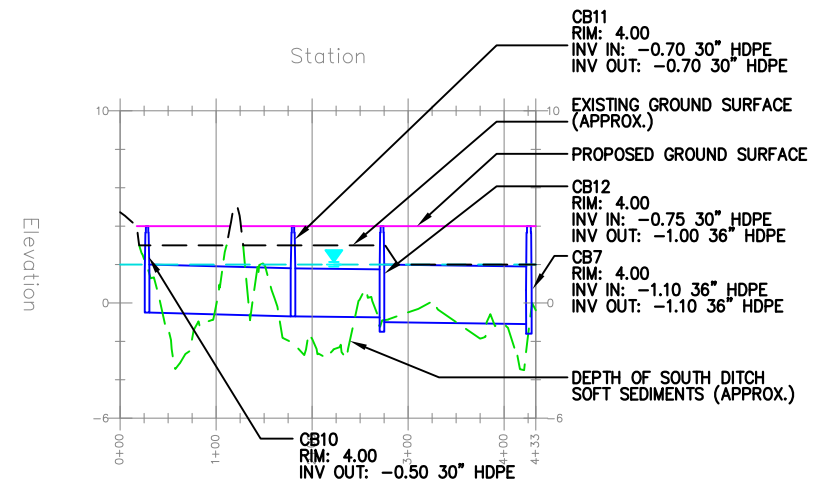
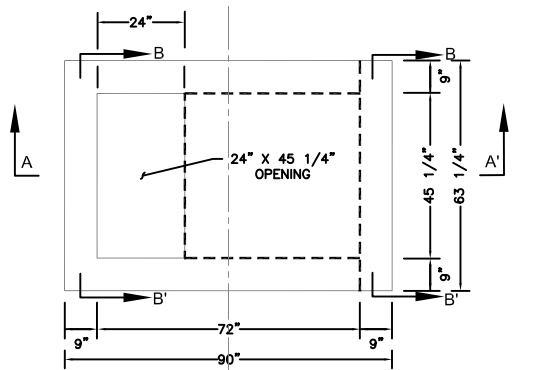
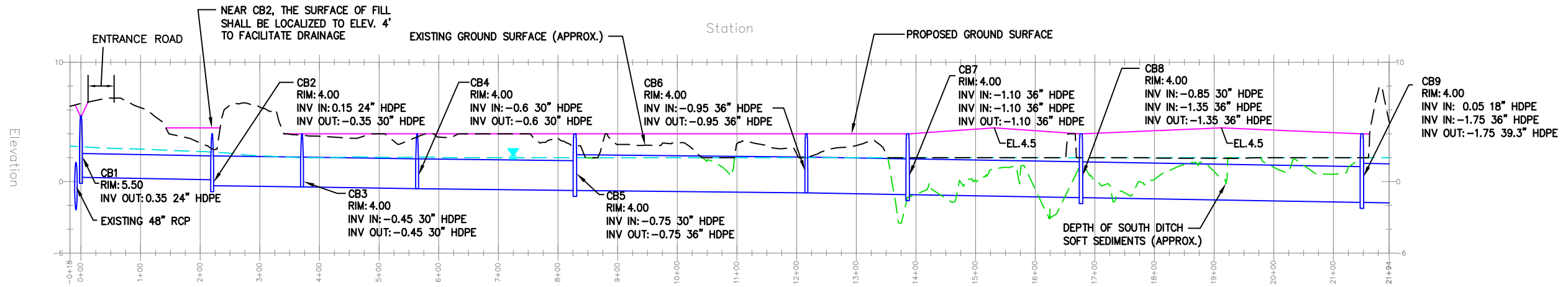
INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

STORMWATER MANAGEMENT  
SYSTEM DETAILS

PROJECT NO: 09-803/804  
SWM-03

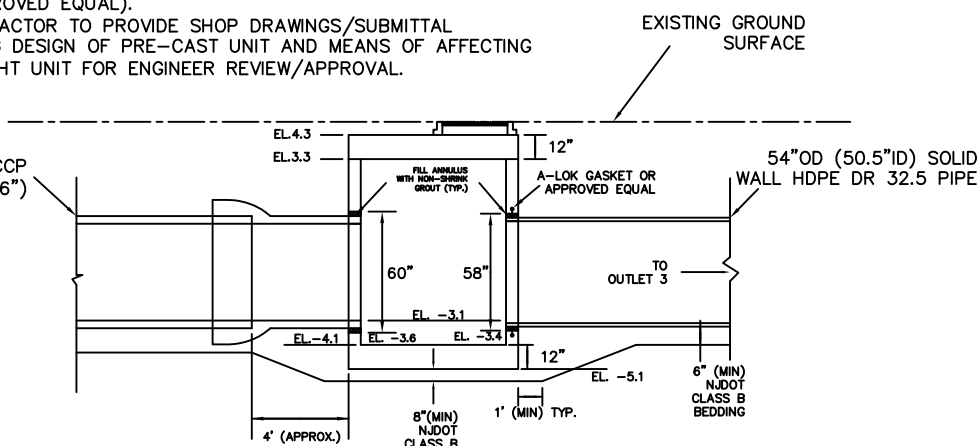
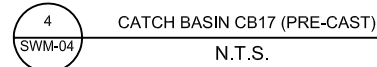
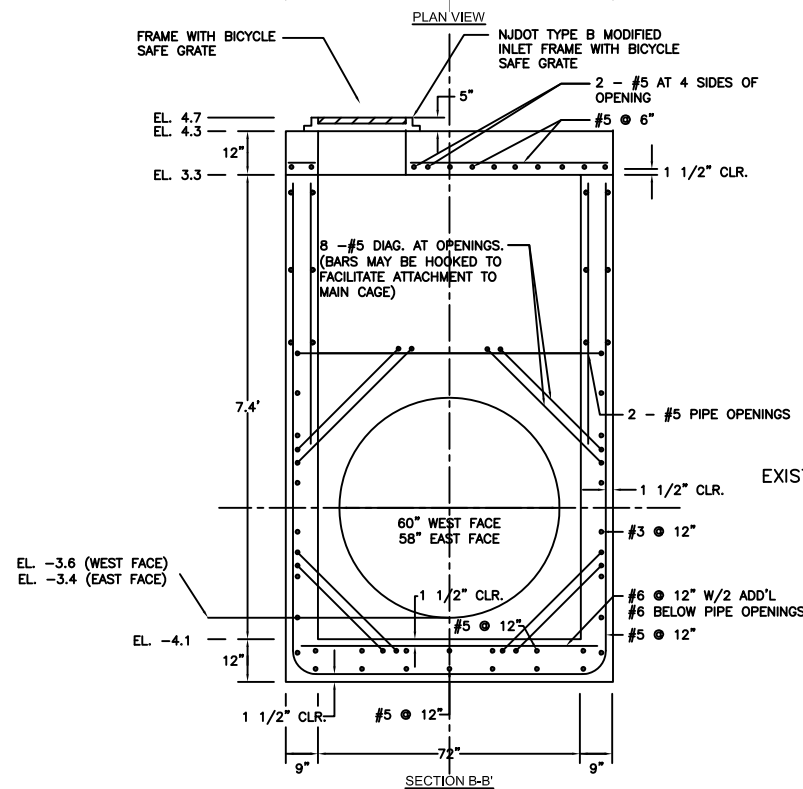


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#### NOTES:

1. COAT INTERIOR FLOOR AND WALLS OF CATCH BASIN, FIRST JOINT OF RCC PIPE AND OUTER WALLS OF CATCH BASIN AND PIPE SURFACES WITHIN 1' OF THE PENETRATIONS WITH A 4 MIL LAYER OF INSTACOTE M-25 (OR APPROVED EQUAL).
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS/SUBMITTAL DEPICTING DESIGN OF PRE-CAST UNIT AND MEANS OF AFFECTING WATERTIGHT UNIT FOR ENGINEER REVIEW/APPROVAL.

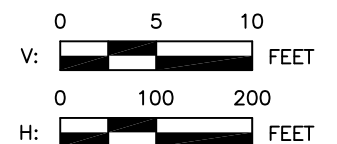


A-A'

N.T.S.

#### LEGEND

- EXISTING GROUND SURFACE (APPROX.)
- PROPOSED GROUND SURFACE
- DEPTH OF SOUTH DITCH SOFT SEDIMENTS (APPROX.)
- GROUNDWATER



#### PENINSULA RESTORATION GROUP

DRWN: DJB	DATE: 05/14/09
CHKD: GWB	DATE: 05/14/09
APPD: AEB	DATE: 05/14/09
SCALE: AS SHOWN	



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

STORMWATER MANAGEMENT  
SYSTEM DETAILS

PROJECT NO: 09-803/804  
SWM-04

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24603878500

SIGNATURE DATE

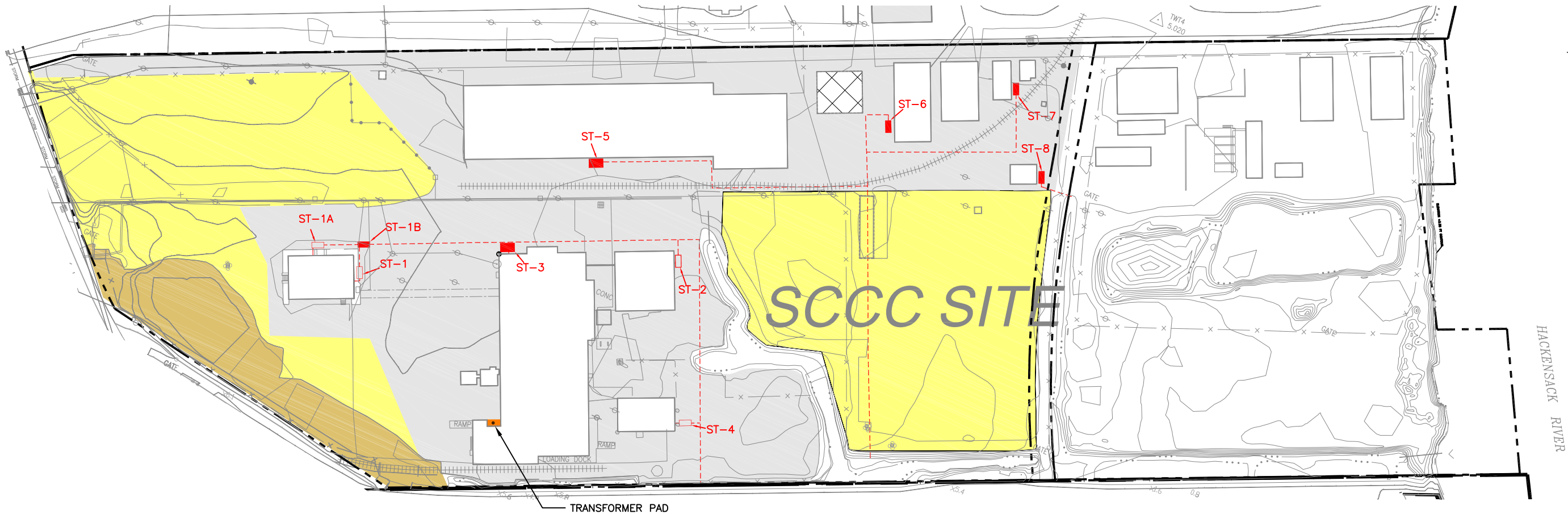
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

REFERENCE:

REV #	DATE	DESCRIPTION	APPD
1	12/22/09	ISSUED FOR BID	AEB



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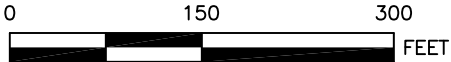
LEGEND

- PROPERTY BOUNDARY
- - - LAGOON/STREAM
- x x FENCE LINE
- - - GUARD RAIL
- o TREE/BRUSH AREA
- - - GRAVEL/CONCRETE
- ||||| FORMER RAILROAD SIDING
- - - UNDERGROUND TUNNEL
- EXISTING BUILDING/STRUCTURE
- FORMER BUILDING/STRUCTURE
- UTILITY POLE
- ST-1B SEPTIC TANK LOCATION (~1.5 - 2 TIMES ACTUAL SIZE)
- ST-1A SUSPECTED SEPTIC TANK LOCATION (~1.5 - 2 TIMES ACTUAL SIZE)
- TRANSFORMER PAD AND TRANSFORMER
- EXISTING SANITARY SEWER (ASSUMED LOCATION)
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD POWER LINE
- INTERIM REMEDIAL MEASURE AREA ASPHALT SURFACE COVER (PREVIOUSLY INSTALLED)
- INTERIM REMEDIAL MEASURE AREA SOIL SURFACE COVER (PREVIOUSLY INSTALLED)
- INTERIM REMEDIAL MEASURE AREA GEOMEMBRANE/AGGREGATE SURFACE COVER (PREVIOUSLY INSTALLED)

ANTICIPATED TANK DIMENSIONS (SEE NOTE 5)						
TANK NUMBER	NUMBER OF TANKS	DIAMETER (FT.)	WIDTH (FT.)	LENGTH (FT.)	HEIGHT OF TANK (FT.)	DEPTH BGS (FT.)
ST-1	1 (ASSUMED)	NA	4	8	3	UNK
ST-1A	1 (ASSUMED)	NA	UNK	UNK	UNK	UNK
ST-1B	1	NA	4	4	5	0.9 (APPROX.)
ST-2	1 (ASSUMED)	NA	4	6	3	UNK
ST-3	1	NA	6	12	7	1
ST-4	1 (ASSUMED)	NA	4	6	3	UNK
ST-5	1	NA	8	8	6.3	0.8
ST-6	1	NA	3.5	4	4.7	0.3
ST-7	1	NA	5	7	4	0.3
ST-8	2	5	NA	NA	5	0.3
		5	NA	NA	5	0.2

BGS - BELOW GROUND SURFACE  
UNK - UNKNOWN  
NA - NOT APPLICABLE

- NOTES:
- ALL SANITARY SEWER LINE LOCATIONS APPROXIMATE (AS-BUILTS NOT AVAILABLE).
  - SANITARY SEWER LINE DISCHARGE POINTS INFERRED (AS-BUILTS NOT AVAILABLE).
  - ACTUAL CONFIGURATION OF TANKS AT BUILDING 1 UNKNOWN. TANKS MAY NOT EXIST AT LOCATIONS ST-1 AND ST-1A. TANK ST-1B MAY BE A JUNCTION BOX.
  - ALL UTILITY LINE LOCATIONS ARE APPROXIMATE BASED ON BEST AVAILABLE INFORMATION.
  - TANK DIMENSIONS SHOWN WERE BASED ON HISTORICAL RECORDS AND THUS ARE APPROXIMATE.



PENINSULA RESTORATION GROUP

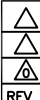
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CHKD: GWB	DATE: 04/15/09
APPD: AEB	DATE: 04/15/09
SCALE:	AS SHOWN



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SEPTIC TANK AND TRANSFORMER  
PAD LOCATION PLAN

PROJECT NO:09-803/804  
SPA-01



REV #	DATE	DESCRIPTION	APPD
12/22/09		ISSUED FOR BID	AEB

REFERENCE:

- EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
- PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, PC.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400



PHOTOGRAPHS OF REPRESENTATIVE EXISTING SURFACE COMPLETIONS – SEPTIC TANKS



BUILDING 1. EFFLUENT LINE TO SUSPECTED TANK ST-1A.



NORTHEAST CORNER OF BUILDING 1. TANK OR JUNCTION BOX ST-1B



TYPICAL BLOCK/PLATE SURFACE COMPLETION. TANK ST-3



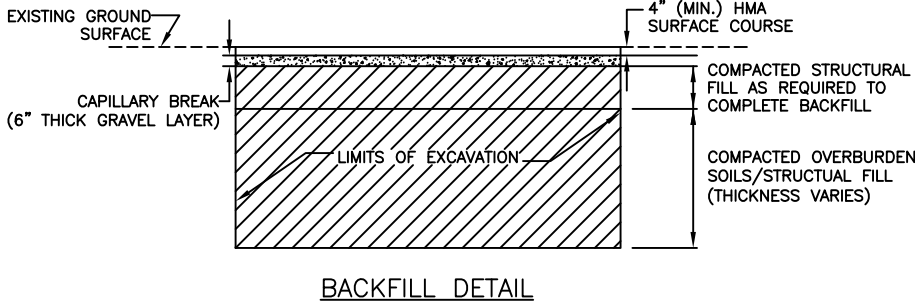
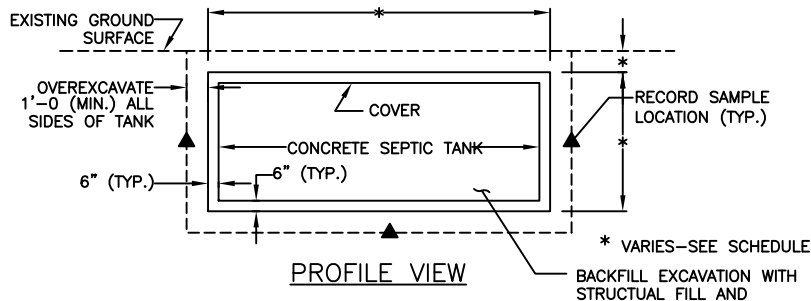
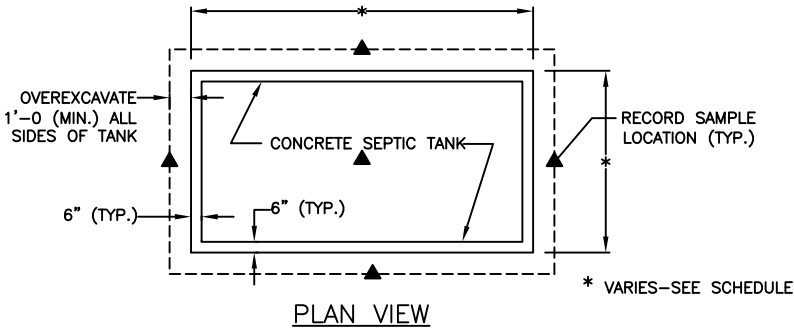
TYPICAL BLOCK/PLATE SURFACE COMPLETION. TANK ST-5



TYPICAL MANHOLE SURFACE COMPLETION. TANK ST-6



TYPICAL MANHOLE SURFACE COMPLETION. TANK ST-8



SEPTIC TANK REMOVAL DETAIL  
N.T.S

CONSTRUCTION SEQUENCE FOR REMOVAL OF SEPTIC TANKS

1. FIELD LOCATE THE SEPTIC TANKS AND MARK THE TANK CORNERS, ACCESS PORTS, AND INFLUENT AND EFFLUENT LINE LOCATIONS.
2. COMPLETE EXCAVATION AS NECESSARY TO DETERMINE IF TANKS ST-1, ST-1A, ST-2, AND ST-4 EXIST (SEE DRAWING SPA-01). PLACE EXCAVATED SOILS IN INDIVIDUAL STOCKPILES WITH A LINER, BERM/BALES, AND COVER PENDING REPLACEMENT IN THE EXCAVATION. CONVEY CONCRETE AND ASPHALT RUBBLE TO THE SCCC CONSOLIDATION AREA.
3. IF ANY OF THE PRECEDING TANKS (ST-1, ST-1A, ST-2, OR ST-4) DO NOT EXIST, REPLACE CONCRETE OR ASPHALT PAVING OR OTHER SURFACE COVER MATERIAL IN KIND.
4. IF TANKS ARE FOUND AT LOCATIONS ST-1, ST-1A, ST-2, AND ST-4, OBTAIN LIQUID AND SOLID PHASE SAMPLES FROM THE TANK. ANALYZE SAMPLES FOR TAL METALS, TCL VOLATILES AND SEMIVOLATILES, HEXAVALENT CHROMIUM, DIOXINS/FURANS, TCLP VOLATILES, TCLP SEMIVOLATILES, AND TCLP METALS.
5. COVER EXCAVATED TANK LOCATIONS (ST-1, ST-1A, ST-2, AND ST-4) TO PREVENT RUNOFF, RUNON, AND INFILTRATION WHILE SAMPLE ANALYSIS IS PENDING (IF APPLICABLE).
6. CONSTRUCT TANK DECONTAMINATION AREA WITH LINER, BERM AND SUMP FOR COLLECTION OF WASH WATER.
7. REMOVE VEGETATION AND PLANTER MATERIAL (TIES, MULCH AND SOIL) FROM VICINITY OF SEPTIC TANK ST-1A IF IT IS PRESENT (TO BE REPLACED IN KIND).
8. CUT PAVING MATERIAL, REMOVE CONCRETE BLOCK RISER STRUCTURE AS NECESSARY AND REMOVE ASPHALT OR CONCRETE PAVING. CONVEY RUBBLE TO THE SCCC CONSOLIDATION AREA.
9. REMOVE OVERBURDEN FROM SEPTIC TANK AND STOCKPILE ADJACENT TO THE EXCAVATION WITH LINER, BALES/BERM, AND COVER.
10. REMOVE SEPTIC TANK MANHOLE COVER(S), TIE DOWNS (IF PRESENT), AND SEPTIC TANK CAP AND CONVEY TO THE DECONTAMINATION AREA FOR PRESSURE WASHING.
11. PUMP OUT SEPTIC TANK LIQUIDS. CONNECT PUMP TO INFLUENT/EFFLUENT LINES AND PUMP OUT CONTENTS. CUT OFF DOWNCOMER/TEE ON INFLUENT/EFFLUENT LINES.
12. CONVEY ALL LIQUIDS FOR OFFSITE TREATMENT AND/OR DISPOSAL IN ACCORDANCE WITH NJDEP, EPA, AND DOT REQUIREMENTS, INCLUDING REQUISITE MANIFESTING (ANALYTICAL DATA TO BE PROVIDED TO CONTRACTOR).
13. REMOVE SEPTIC TANK SOLIDS WITH VACUUM TRUCK OR EQUIVALENT AND CONVEY FOR OFFSITE TREATMENT AND/OR DISPOSAL IN ACCORDANCE WITH NJDEP, EPA, AND DOT REQUIREMENTS, INCLUDING REQUISITE MANIFESTING (ANALYTICAL DATA TO BE PROVIDED TO CONTRACTOR).
14. OVEREXCAVATE THE TANK AND STOCKPILE THE SOILS WITH LINER, BERMS/BALES, AND COVER ADJACENT TO THE EXCAVATION. TAKE CARE NOT TO BREAK INFLUENT AND EFFLUENT LINES.
15. CUT AND PLUG OR CAP INFLUENT AND EFFLUENT LINES ON THE OUTSIDE OF THE TANK.
16. REMOVE THE TANK AND PLACE IN THE DECONTAMINATION AREA FOR PRESSURE WASHING.
17. PRESSURE WASH THE TANK AND THE COVER. CONVEY WASH WATER TO THE SCCC LAGOON FOR SUBSEQUENT MANAGEMENT BY OTHERS.
18. OBTAIN ONE (1) CONCRETE CHIP SAMPLE FROM BELOW APPARENT HIGH WATER LINE OF TANK INTERIOR OR FROM TANK BOTTOM AND ANALYZE SAMPLES FOR TAL METALS, TCL VOLATILES AND SEMIVOLATILES, HEXAVALENT CHROMIUM, DIOXINS/FURANS, TCLP VOLATILES, TCLP SEMIVOLATILES, AND TCLP METALS. STAGE TANKS ON LINERS AND COVER PENDING SUBSEQUENT MANAGEMENT.
19. OBTAIN FOUR SIDEWALL SAMPLES AND ONE BOTTOM SAMPLE FROM EXCAVATION (TAL METALS, PCBs, TCL VOLATILES AND SEMIVOLATILES, AND HEXAVALENT CHROMIUM ANALYSIS).
20. BACKFILL THE EXCAVATION WITH A MINIMUM OF 2 FEET OF STRUCTURAL FILL MATERIAL. BACKFILL ABOVE STRUCTURAL FILL WITH STOCKPILED SOILS. BACKFILL REMAINING SPACE WITH STRUCTURAL FILL. PLACE 6 INCH CAPILLARY BREAK SUBGRADE AND REPLACE PAVING OR SURFACE COVER MATERIAL IN KIND.
21. MANAGE CONCRETE TANKS IN ACCORDANCE WITH NJDEP GUIDANCE AND APPLICABLE STATE AND LOCAL REQUIREMENTS. PRIMARY GUIDANCE FOR CONCRETE TANK MANAGEMENT IS OUTLINED IN THE NJDEP SITE REMEDIATION AND MANAGEMENT PROGRAM'S "GUIDANCE FOR THE SAMPLING AND ANALYSIS OF CONCRETE DESIGNATED FOR RECYCLING" DATED FEBRUARY 2009.

NOTES:

1. REFER TO SPA-01 FOR LOCATIONS AND APPROXIMATE LOCATIONS OF SEPTIC TANKS AND LINES.

△			
△	12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION	APPD

REFERENCE:

ISSUE DATE:

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE DATE

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: SOC  
CHKD: GWB  
APPD: AEB  
SCALE: NOT TO SCALE

KEY ENVIRONMENTAL  
INCORPORATED

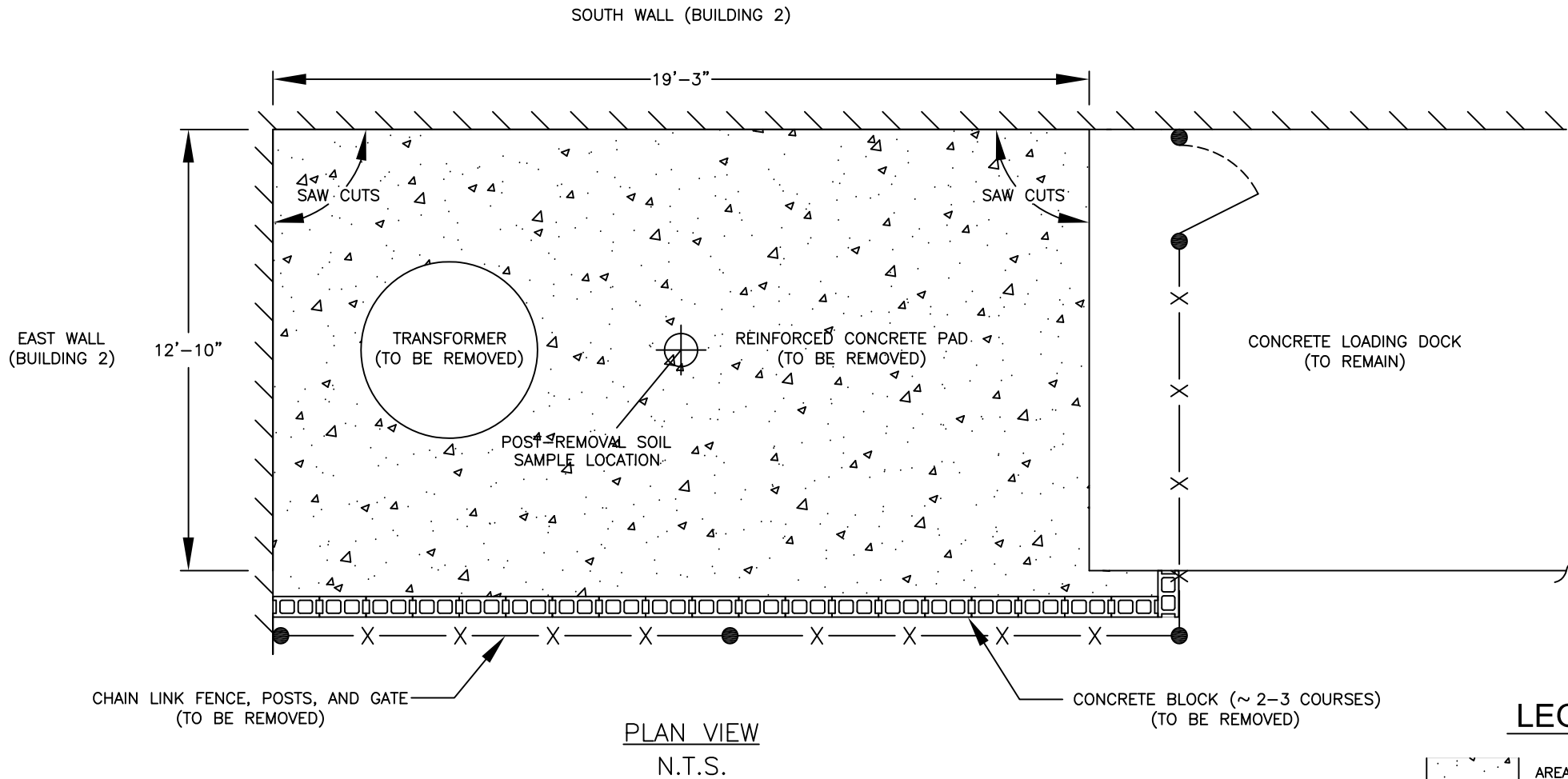
INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SEPTIC TANK REMOVAL  
AND BACKFILL DETAILS

PROJECT NO: 09-803/804  
SPA-02



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- CONSTRUCTION SEQUENCE
1. VERIFY THAT THE TRANSFORMER AND ALL CONDUIT HAS BEEN DISCONNECTED FROM POWER SOURCE.
  2. CLEAR AND GRUB VOLUNTEER VEGETATION FOR DISPOSAL AT PERMITTED OFF-SITE SOLID WASTE DISPOSAL FACILITY.
  3. REMOVE CHAIN LINK FENCING, GATE, CONDUIT, AND NON-SUPPORTING STRUCTURAL STEEL AND RECYCLE OR DISPOSE OFF-SITE AT PERMITTED SOLID WASTE DISPOSAL FACILITY.
  4. REMOVE TRANSFORMER AND DISPOSE OFF-SITE AT A PERMITTED SOLID WASTE DISPOSAL FACILITY APPROVED FOR TSCA WASTES.
  5. COMPLETE SAW CUTS BETWEEN THE PAD AND EXISTING BUILDING WALLS (2 CUTS) AND LOADING DOCK (1 CUT).
  6. USE IMPACT HAMMER OR JACK HAMMER TO BREAK THE TRANSFORMER PAD INTO MANAGEABLE PIECES.
  7. RECOVER ANY REINFORCEMENT BAR FOR RECYCLING OR OFF-SITE DISPOSAL AT A PERMITTED SOLID WASTE DISPOSAL FACILITY.
  8. DIRECT LOAD CONCRETE RUBBLE AND BLOCK INTO LINED ROLL-OFF BOX FOR TRANSPORTATION AND OFF-SITE DISPOSAL AT A TSCA APPROVED FACILITY.
  9. COLLECT ONE (1) GRAB SOIL SAMPLE FROM THE CENTER OF THE TRANSFORMER PAD FOOTPRINT AND ANALYZE THE SAMPLE FOR POLYCHLORINATED BIPHENYLS (1 SAMPLE PER 900 SQ. FT. REQUIRED).
  10. TEMPORARILY COVER THE TRANSFORMER PAD FOOTPRINT WITH A TARP PENDING RECEIPT OF LABORATORY ANALYTICAL RESULTS.
  11. IF SOIL SAMPLE TOTAL PCB CONCENTRATION EXCEEDS 50 MG/KG, REMOVE APPROXIMATELY 6 INCHES OF SOIL. RESAMPLE CENTER OF PAD FOOTPRINT SOIL FOR PCB ANALYSIS AND COVER WITH TARP.
  12. IF SOIL GRAB SAMPLE INDICATES TOTAL PCB CONCENTRATION ABOVE 50 MG/KG, REPEAT 11 ABOVE.
  13. DISPOSE OF SOIL OFF-SITE AT A PERMITTED SOLID WASTE DISPOSAL FACILITY. DISPOSAL AT A LANDFILL PERMITTED TO ACCEPT TSCA WASTE MAY BE REQUIRED.
  14. INSTALL LLDPE GEOMEMBRANE LINER AND BACKFILL TRANSFORMER PAD FOOTPRINT WITH GRAVEL TO ADJACENT GROUND SURFACE ELEVATION.



LOOKING EAST AT TRANSFORMER AND PAD  
LOCATED AT BUILDING NO.2.



LOOKING SOUTH AT TRANSFORMER AND PAD.



LOOKING SOUTHEAST AT TRANSFORMER, PAD AND CONCRETE  
BLOCK RETAINING WALL LOCATED AT BUILDING NO.2.



LOOKING EAST AT ELECTRIC DISTRIBUTION LINES.

REPRESENTATIVE TRANSFORMER PAD PHOTOGRAPHS

NOTE: REFER TO SPA-01 FOR LOCATION OF TRANSFORMER PAD.

△			
△	12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION	APPD

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE DATE

CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: SCC DATE: 04/05/09  
CHKD: RJH DATE: 04/05/09  
APPD: JSZ DATE: 04/05/09  
SCALE: NOT TO SCALE

**KEY ENVIRONMENTAL**  
**INCORPORATED**

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

TRANSFORMER PAD  
REMEDICATION DETAILS

PROJECT NO: 09-803/804  
SPA-03



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12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION
APPD		

REFERENCE:
1. EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
2. PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, PC.
3. EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.
4. IMAGE PROVIDED BY PRINCETON HYDRO, LLC.

ISSUE DATE:
KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 246E03878500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: SCC	DATE: 08/13/09
CHKD: GWB	DATE: 08/13/09
APPD: GWB	DATE: 08/13/09
SCALE: AS SHOWN	



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

SHORELINE RESTORATION/WETLAND  
MITIGATION PLAN

PROJECT NO: 09-803/804  
MTG-01

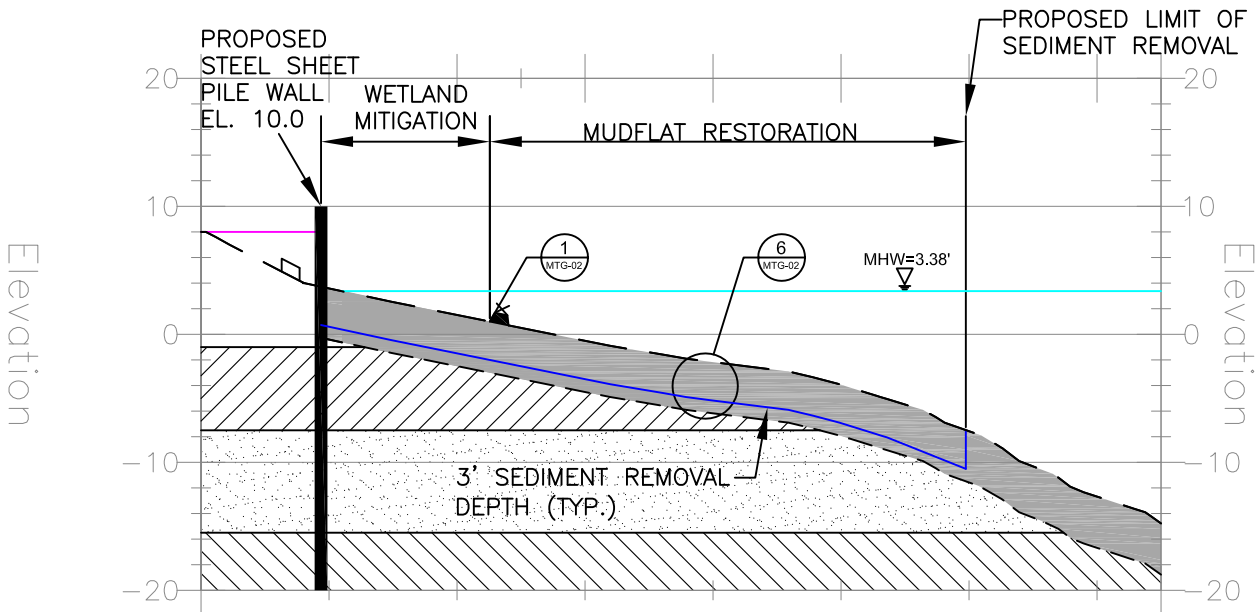




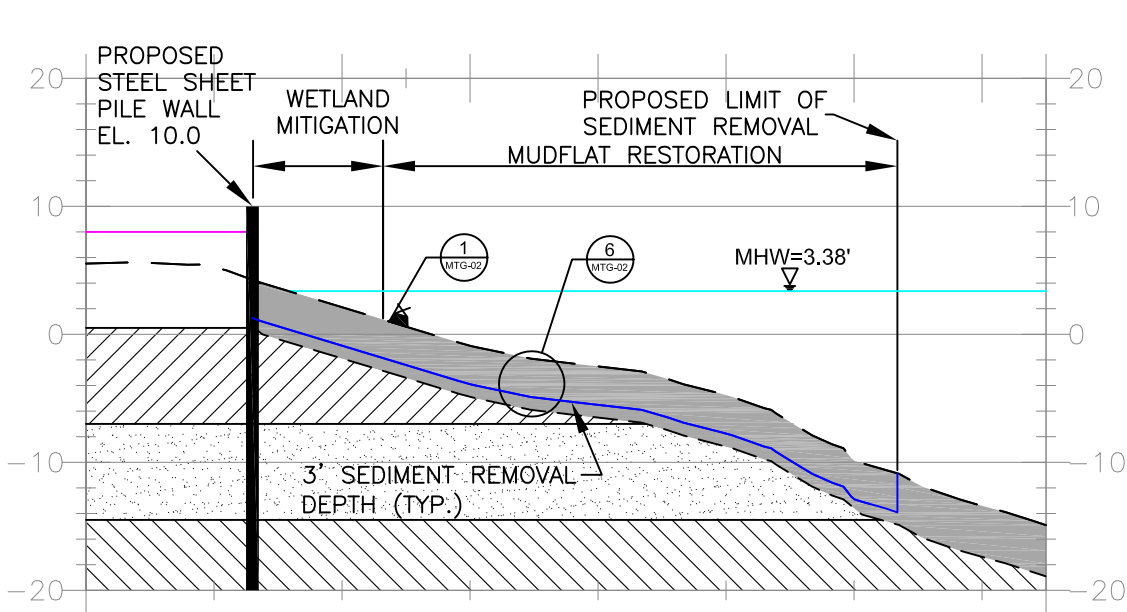


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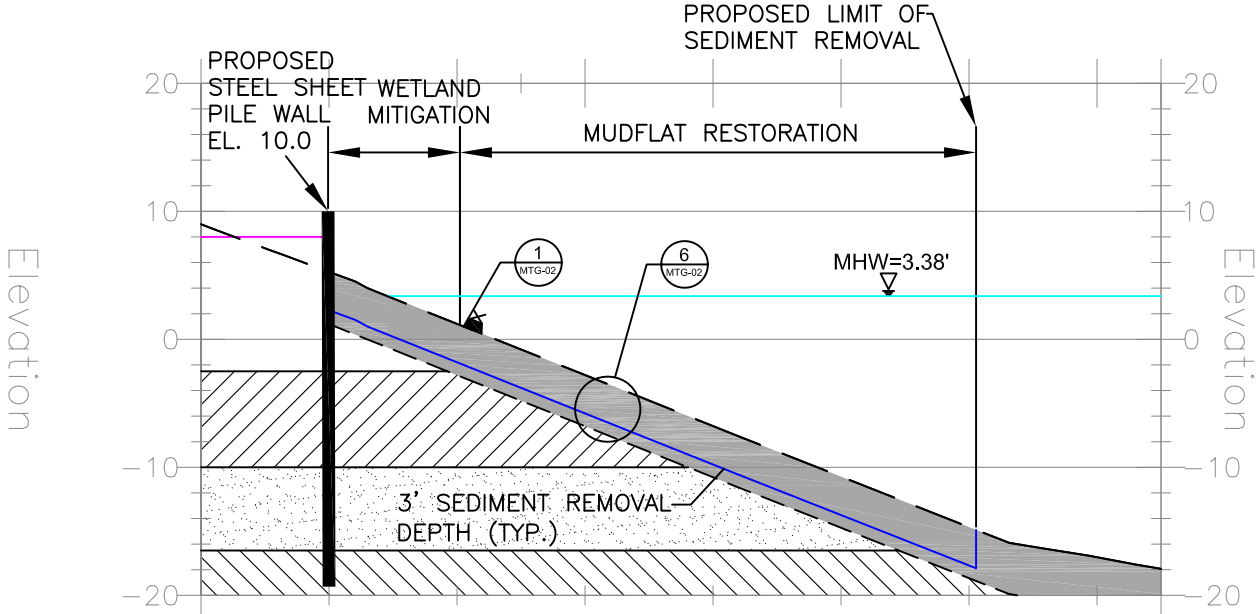
CROSS SECTION A-A'



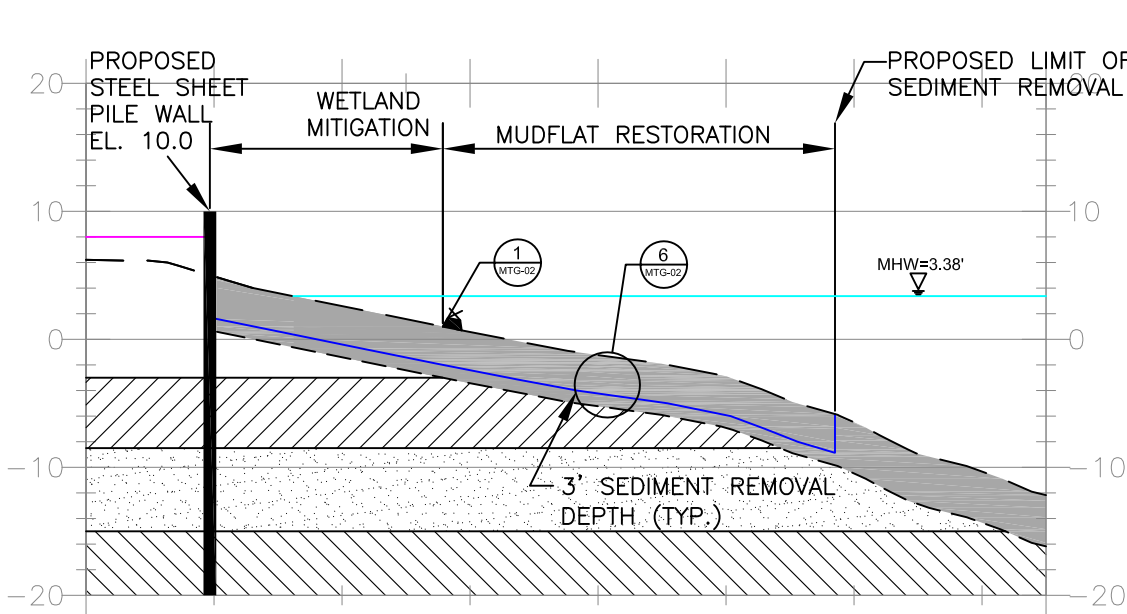
CROSS SECTION B-B'



CROSS SECTION C-C'

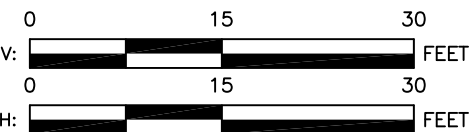


CROSS SECTION D-D'



LEGEND

- PROPOSED LIMIT OF RIVER SEDIMENT EXCAVATION
- EXISTING GROUND SURFACE
- BOTTOM OF RIVER SEDIMENT (APPROX.)
- TOP OF WORKING PLATFORM FOR SLURRY WALL CONSTRUCTION (EL. +8 MSL)
- MEAN HIGH WATER
- RIVER SEDIMENT
- FILL
- MEADOWMAT
- SAND
- VARVED CLAY



REFERENCE: TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: DJB DATE: 08/11/09  
CHKD: GWB DATE: 08/11/09  
APPD: AEB DATE: 08/11/09  
SCALE: AS SHOWN



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

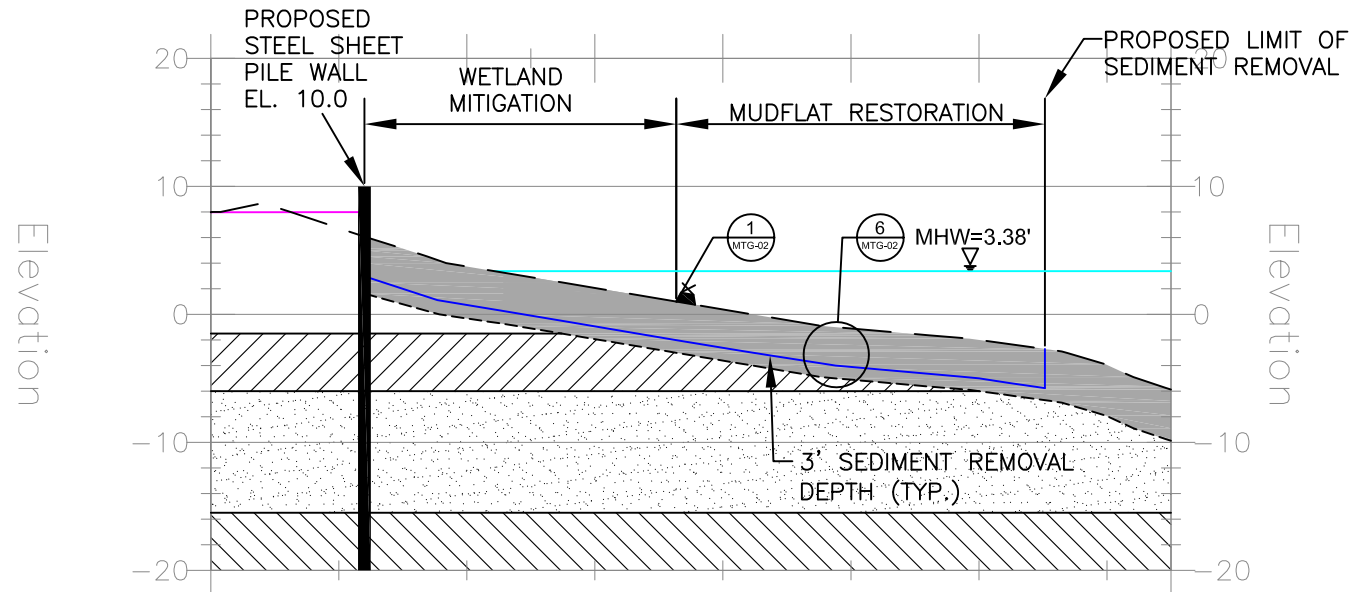
SHORELINE RESTORATION/  
WETLAND MITIGATION CROSS SECTIONS  
(SHEET 1 OF 2)

PROJECT NO: 09803/804  
MTG-03

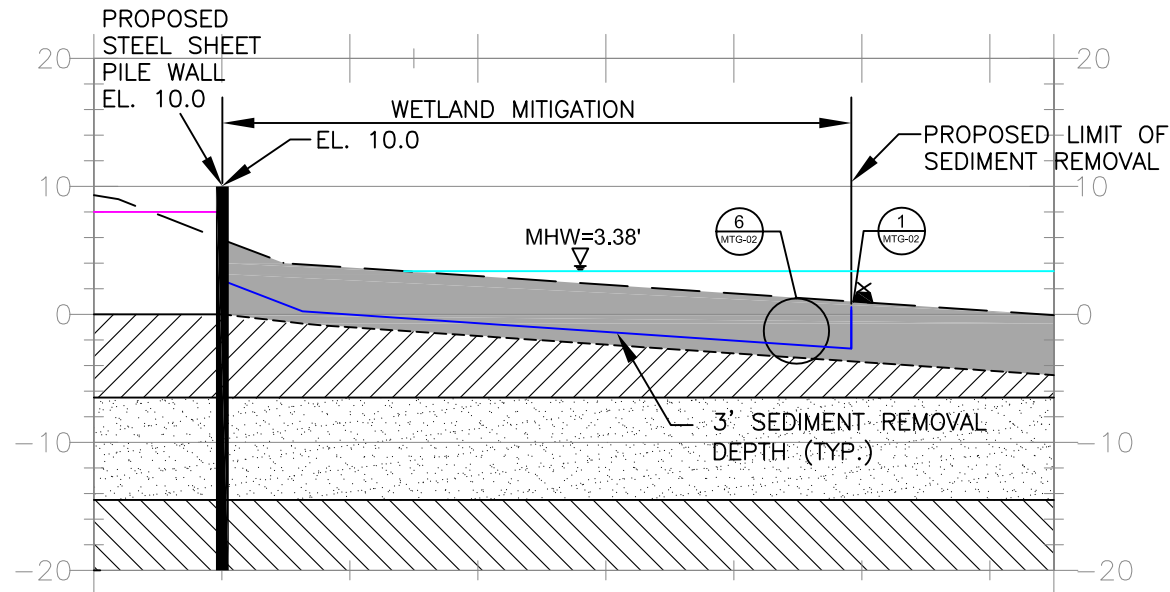


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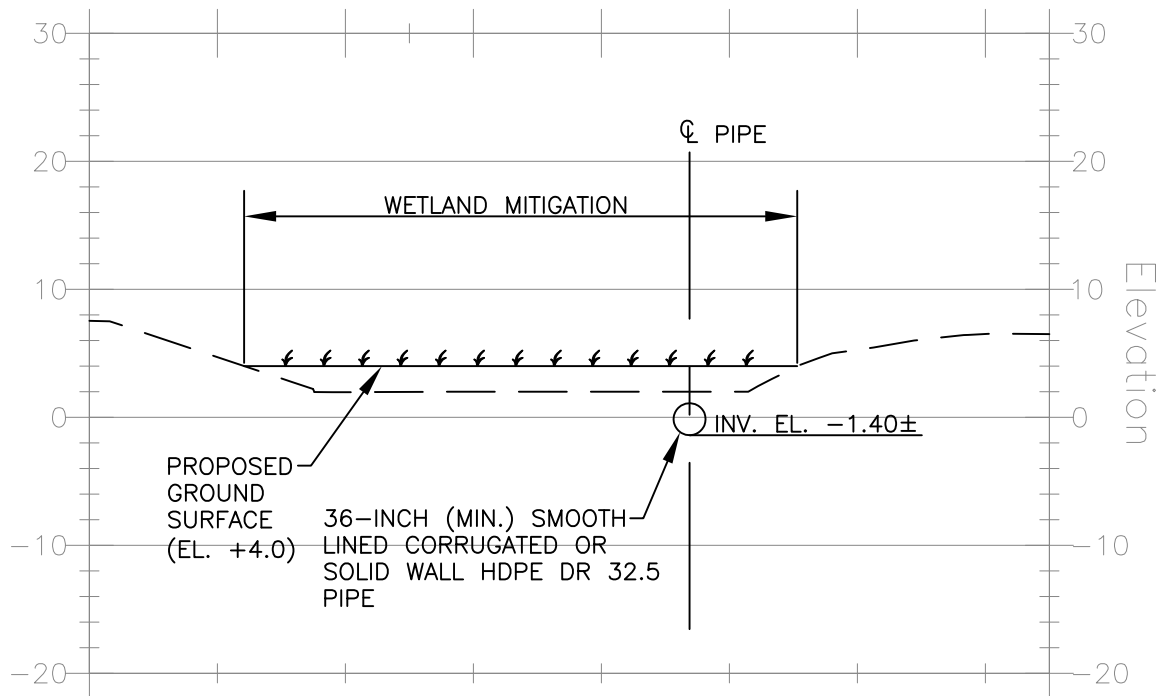
CROSS SECTION E-E'



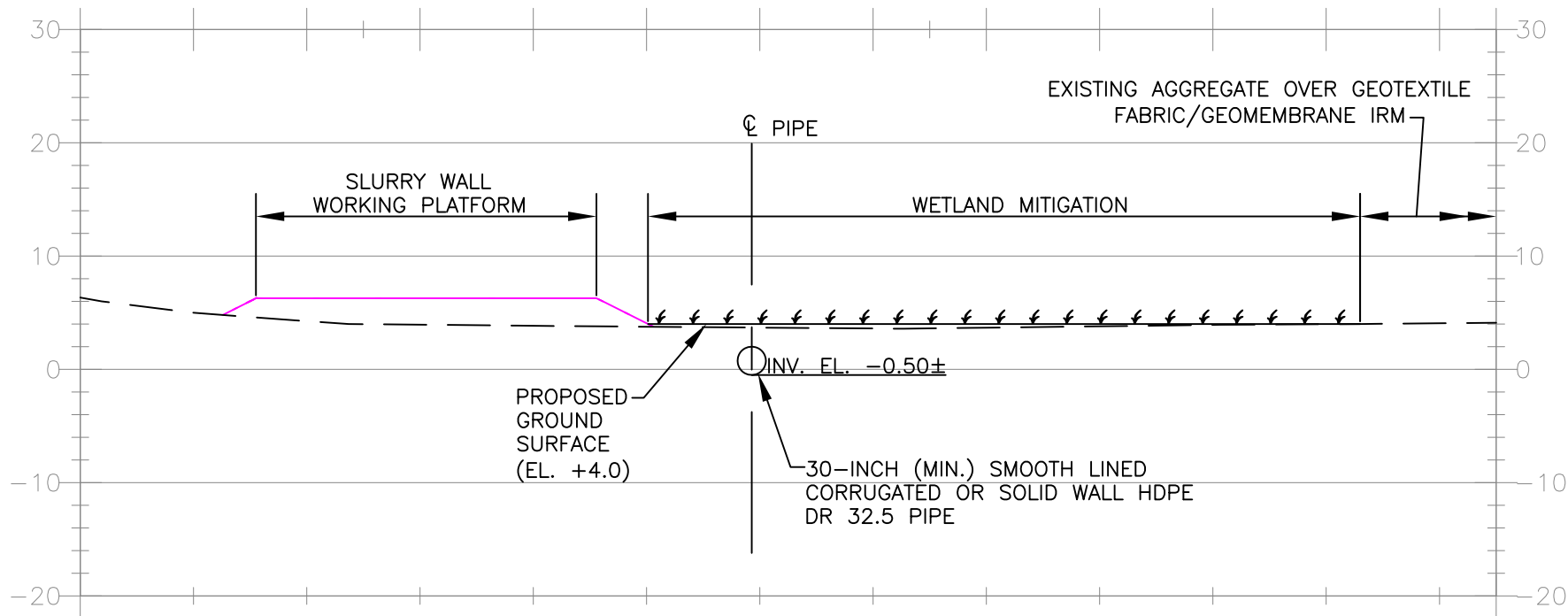
CROSS SECTION F-F'



CROSS SECTION G-G'

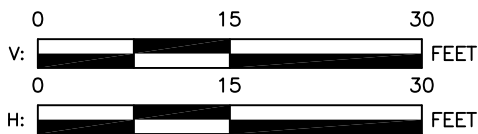


CROSS SECTION H-H'



LEGEND

- |  |   |  |                |
|--|---|--|----------------|
|  | PROPOSED LIMIT OF RIVER SEDIMENT EXCAVATION                       |  | RIVER SEDIMENT |
|  | EXISTING GROUND SURFACE   |  | FILL           |
|  | BOTTOM OF RIVER SEDIMENT (APPROX.)                                |  | MEADOWMAT      |
|  | TOP OF WORKING PLATFORM FOR SLURRY WALL CONSTRUCTION (EL. +8 MSL) |  | SAND           |
|  | MEAN HIGH WATER   |  | VARVED CLAY    |



REFERENCE: TIDAL ELEVATION DATA CALCULATIONS WERE PROVIDED BY GEOD CORPORATION DERIVED BY UTILIZING INFORMATION FOR TIDAL STATIONS 853-0696 AND 853-0772 USING THE 1983-2001 TIDAL EPOCH AND ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).

ISSUE DATE:

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: WAA DATE: 02/27/09  
CHKD: AEB DATE: 02/27/09  
APPD: PWS DATE: 02/27/09  
SCALE: AS SHOWN



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

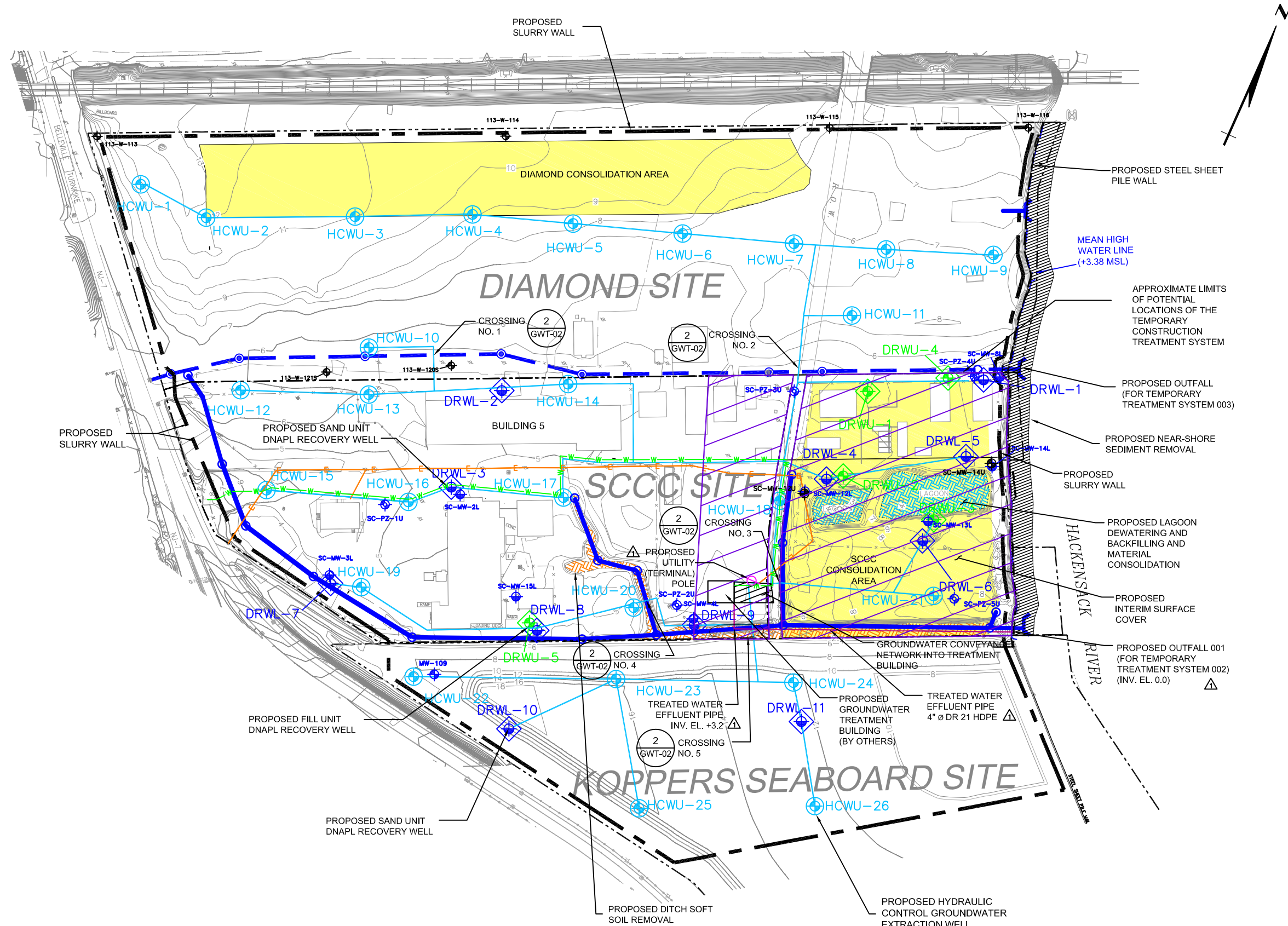
SHORELINE RESTORATION/  
WETLAND MITIGATION CROSS SECTIONS  
(SHEET 2 OF 2)

PROJECT NO: 09-803/04  
MTG-04

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△	12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION	APPD



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LEGEND

- EXISTING ACCESS ROAD
- EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
- EXISTING FENCE
- EXISTING STRUCTURES
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING STORM DRAIN
- EXISTING STORM SEWER
- EXISTING GAS LINE
- PROPERTY BOUNDARY
- EXISTING CONCRETE PAD
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING VEGETATION
- EXISTING STREAM, POND AND RIVER BANK
- EXISTING ELEVATION (FEET-MSL)
- PROPOSED SLURRY WALL LOCATION
- PROPOSED STEEL SHEET PILE WALL LOCATION
- PROPOSED GROUNDWATER CONVEYANCE PIPING TRENCH ALIGNMENT
- PROPOSED FILL UNIT GROUNDWATER EXTRACTION (HYDRAULIC CONTROL) WELL LOCATION (BY OTHERS)
- PROPOSED FILL UNIT DNAPL RECOVERY WELL LOCATION (BY OTHERS)
- PROPOSED SAND UNIT DNAPL RECOVERY WELL LOCATION (BY OTHERS)
- PROPOSED LAGOON DEWATERING AND BACKFILLING
- PROPOSED NEAR-SHORE SEDIMENT REMOVAL
- PROPOSED DRAINAGE DITCH REMEDIATION (EXCAVATION AND BACKFILL)
- PROPOSED INTERIM SURFACE COVER
- APPROXIMATE LIMITS OF POTENTIAL LOCATIONS FOR THE TEMPORARY CONSTRUCTION TREATMENT SYSTEM
- PROPOSED TREATED WATER PERMITTED DISCHARGE
- EXISTING STORM DRAIN (48" PIPE)
- PROPOSED CULVERT(S)
- EXISTING DROP INLET
- PROPOSED DROP INLET
- PROPOSED CULVERT OUTFALL
- PROPOSED POWER AND PHONE LINES (OVERHEAD)
- PROPOSED WATER LINE TO TREATMENT BUILDING
- PROPOSED UTILITY POLE

NOTES:  
1. INSTALLATION OF THE WELLS IS NOT INCLUDED IN THIS CONTRACT.

01/28/10	ADDED TERMINAL POLE, INVERT ELEVATIONS AND MATERIAL TYPE FOR TREATED WATER DISCHARGE PIPE, AND PIPE CROSSING NUMBERS.	AEB
12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION
		APPD

REFERENCE: EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).	ISSUE DATE:
	KEY ENVIRONMENTAL, INC. 200 THIRD AVENUE CARNEGIE, PA 15106

PLAN PREPARED BY: ALAN E. BRIGGS PROFESSIONAL ENGINEER N.J. LICENSE NUMBER: 246E03878500	SIGNATURE	DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES  
24GA27961400

PENINSULA RESTORATION GROUP

DRWN: SCC  
CHKD: JAB  
APPD: PWS  
SCALE: AS SHOWN

DATE: 08/24/09  
DATE: 08/24/09  
DATE: 08/24/09

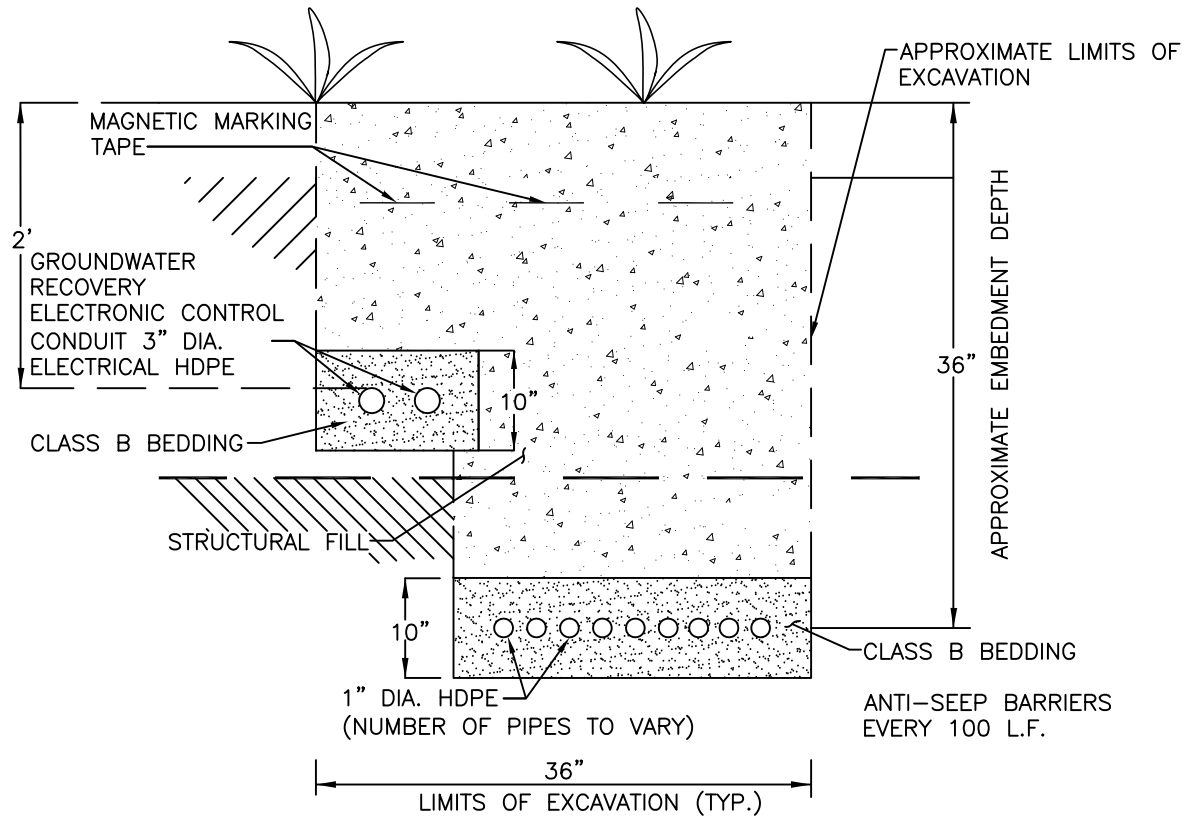
**KEY ENVIRONMENTAL**  
INCORPORATED

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

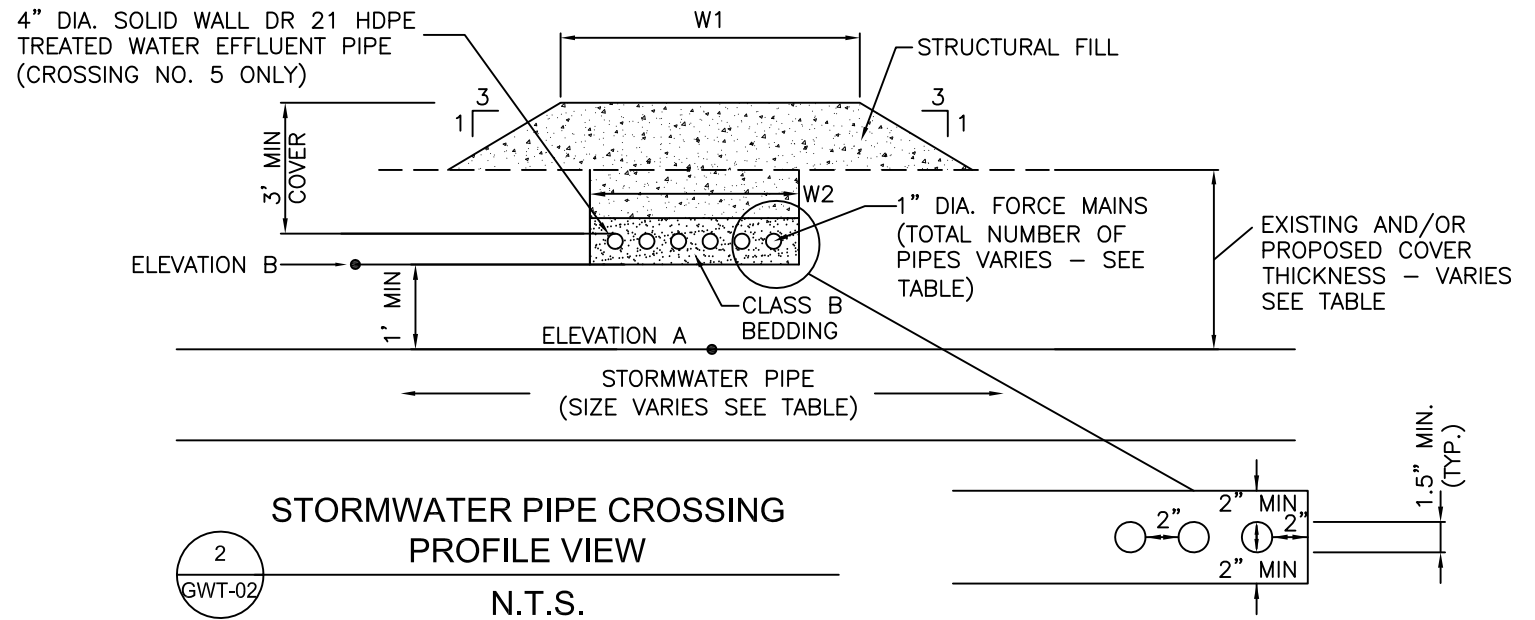
GROUNDWATER TREATMENT FACILITY PLAN  
PROJECT NO: 09-803/804  
GWT-01



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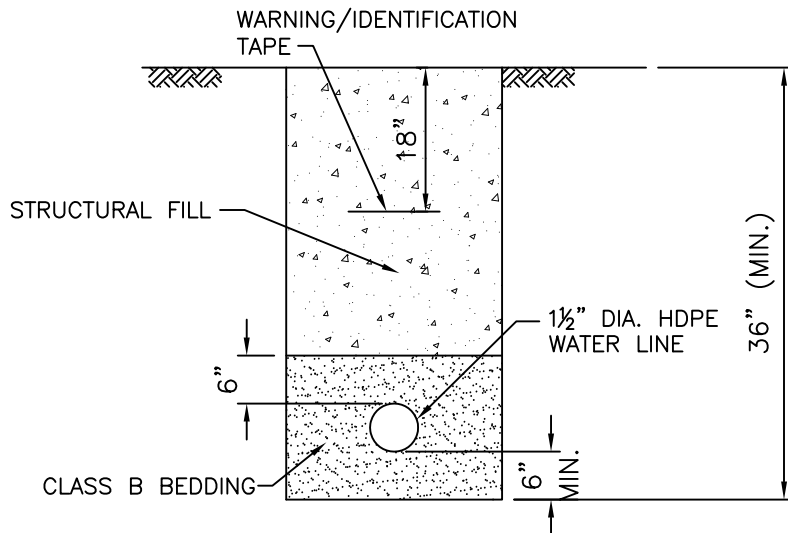


1  
GWT-02  
CONVEYANCE PIPE AND CONDUIT DETAIL  
N.T.S.



2  
GWT-02  
STORMWATER PIPE CROSSING  
PROFILE VIEW  
N.T.S.

STORMWATER PIPE CROSSING SCHEDULE							
CROSSING NUMBER	NUMBER OF PIPES	CROSSING PIPE NUMBER	ASSUMED/PROPOSED GROUND SURFACE	ELEVATION A (FT. MSL)	ELEVATION B (FT. MSL)	W1 (MIN) (FT.)	W2 (MIN) (FT.)
1	1	Existing 48"	4.4	1.7	2.7	2	0.5
2	10	Existing 48"	4.6	1.9	2.9	8	3.5
3	3	Pipe 14	4	2.0	3.0	3	1.5
4	5	Pipe 12	4	2.3	3.3	4	2
5	7	Pipe 7	4.5	2.1	3.1	6 $\Delta$	3.5 $\Delta$



3  
GWT-02  
WATER LINE BACKFILL DETAIL  
N.T.S.

NOTE:

- CONDUIT AND CONVEYANCE PIPING SHALL BE INSTALLED AT APPROXIMATE DEPTHS AND GRADES SHOWN ON THE DRAWINGS ( $\pm$  1-INCH) OR AS DIRECTED BY THE ENGINEER. CONDUIT SHALL BE INSTALLED AT DEPTHS REQUIRED BY LOCAL PERMIT/NEC CODE. PULL BOXES SHALL BE INSTALLED, AS NEEDED, PER LOCAL PERMIT/NEC CODE ALONG THE LENGTH OF THE CONDUIT ALIGNMENT.

PENINSULA RESTORATION GROUP

DRWN: TDD    DATE: 12/14/09  
CHKD: MJV    DATE: 12/14/09  
APPD: AEB    DATE: 12/14/09  
SCALE: AS SHOWN

**KEY ENVIRONMENTAL**  
**INCORPORATED**

INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNY, NEW JERSEY

CONVEYANCE PIPE AND  
CONDUIT DETAILS

PROJECT NO: 09-803/804  
GWT-02

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE    DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES

24GA27961400

REV #	DATE	DESCRIPTION	APPD
1	01/28/10	REVISED DETAILS AND DETAIL SHEET REFERENCES	AEB
2	12/22/09	ISSUED FOR BID	AEB

REFERENCE:

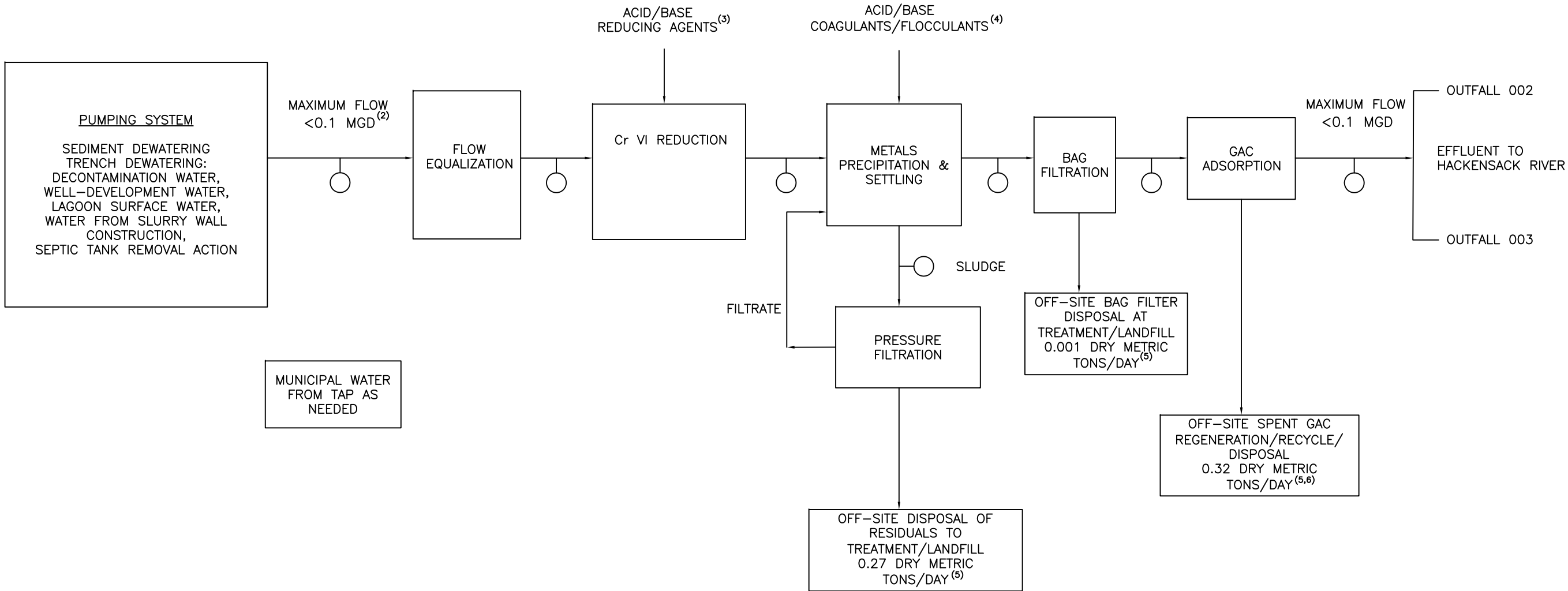
ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106



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TEMPORARY CONSTRUCTION  
TREATMENT  
SYSTEM (TCTS)<sup>(1)</sup>



LEGEND



NOTES:

1. TREATMENT UNITS MAY BE MODIFIED, ENHANCED, AND/OR ELIMINATED DEPENDING ON EFFECTIVENESS OF INDIVIDUAL UNITS TO ACHIEVE PERMIT DISCHARGE LIMITS.
2. MAXIMUM DAILY FLOW LESS THAN 0.1 MGD.
3. FERROUS SULFATE AND SODIUM SULFIDE ADDED TO REDUCE CHROMIUM FROM THE HEXAVALENT TO TRIVALENT FORM.
4. CATIONIC AND ANIONIC POLYMERS, AND/OR FLOCCULATION AID, SUCH AS FERRIC CHLORIDE, FOR COAGULATION AND FLOCCULATION.
5. RESIDUAL-ESTIMATED AMOUNT, ACTUAL QUANTITIES MAY VARY. RESIDUALS WILL BE HANDLED AS NON-HAZARDOUS OR HAZARDOUS WASTE, DEPENDING ON CHARACTERIZATION RESULTS.
6. GAC TRANSPORTED OFFSITE FOR RECYCLE, REGENERATION OR DISPOSAL

GPM = GALLONS PER MINUTE  
GPD = GALLONS PER DAY  
GAC = GRANULAR ACTIVATED CARBON  
DNAPL = DENSE NON-AQUEOUS PHASE LIQUID  
Cr VI = HEXAVALENT CHROMIUM

△			
△			
△	12/22/09	ISSUED FOR BID	AEB
REV #	DATE	DESCRIPTION	APPD

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.  
200 THIRD AVENUE  
CARNEGIE, PA 15106

PLAN PREPARER:  
ALAN E. BRIGGS PROFESSIONAL ENGINEER  
N.J. LICENSE NUMBER: 24GE03878500

SIGNATURE DATE

STATE OF NEW JERSEY  
CERTIFICATE OF AUTHORIZATION  
TO OFFER ENGINEERING SERVICES

24GA27961400

PENINSULA RESTORATION GROUP

DRWN: WAA    DATE: 02/27/09  
CHKD: AEB    DATE: 02/27/09  
APPD: PWS    DATE: 02/27/09  
SCALE: NOT TO SCALE



INTERIM RESPONSE ACTION DESIGN  
SCCC AND DIAMOND SITES  
KEARNEY, NEW JERSEY











TEMPORARY TREATMENT SYSTEM  
LINE DRAWING







PROJECT NO: 09-803/804  
TT-01





NOTES:

- |   |                               |  |                         |
|---|-------------------------------|--|-------------------------|
| -----   | ELECTRICAL LINE               |  SP | SAMPLE PORT             |
|  | BUTTERFLY VALVE               |     | LEVEL SWITCH            |
|  | CHECK VALVE                   |  |                         |
|  | FLOW CONTROL VALVE            |     | PRESSURE RELIEF VALVE   |
|  | BALL VALVE                    |     | FLEX/CAMLOCK CONNECTION |
|  | PRESSURE GAUGE                | PR   | PRESSURE REGULATOR      |
|   |                               | pH   | pH CONTROL              |
|  | HIGH LEVEL ALARM/<br>SHUT OFF | SV   | SOLENOID VALVE          |

- |   |                        |
|---|------------------------|
|  | CENTRIFUGAL PUMP       |
|  | AIR DIAPHRAGM PUMP     |
| PM  | CHEMICAL METERING PUMP |
|  | NEEDLE VALVE           |
|  | RUPTURE DISK           |
|  | FLANGE FITTING         |
|  | UNION                  |
- ALAN  
N.

PENINSULA RESTORATION GROUP		
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SCALE: NOT TO SCALE		
<p>INTERIM RESPONSE ACTION DESIGN SCCC AND DIAMOND SITES KEARNY, NEW JERSEY</p>		
<p>TEMPORARY CONSTRUCTION TREATMENT PROCESS AND INSTRUMENTATION DIAGRAM</p>		<p>PROJECT NO: 09-803/804 TT-02</p>